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DISEASES OF THE NERVOUS SYSTEM

A Practical Journal on Psychiatry and Neurology

OCTOBER

1960

(CONTENTS ON PAGE 540.)

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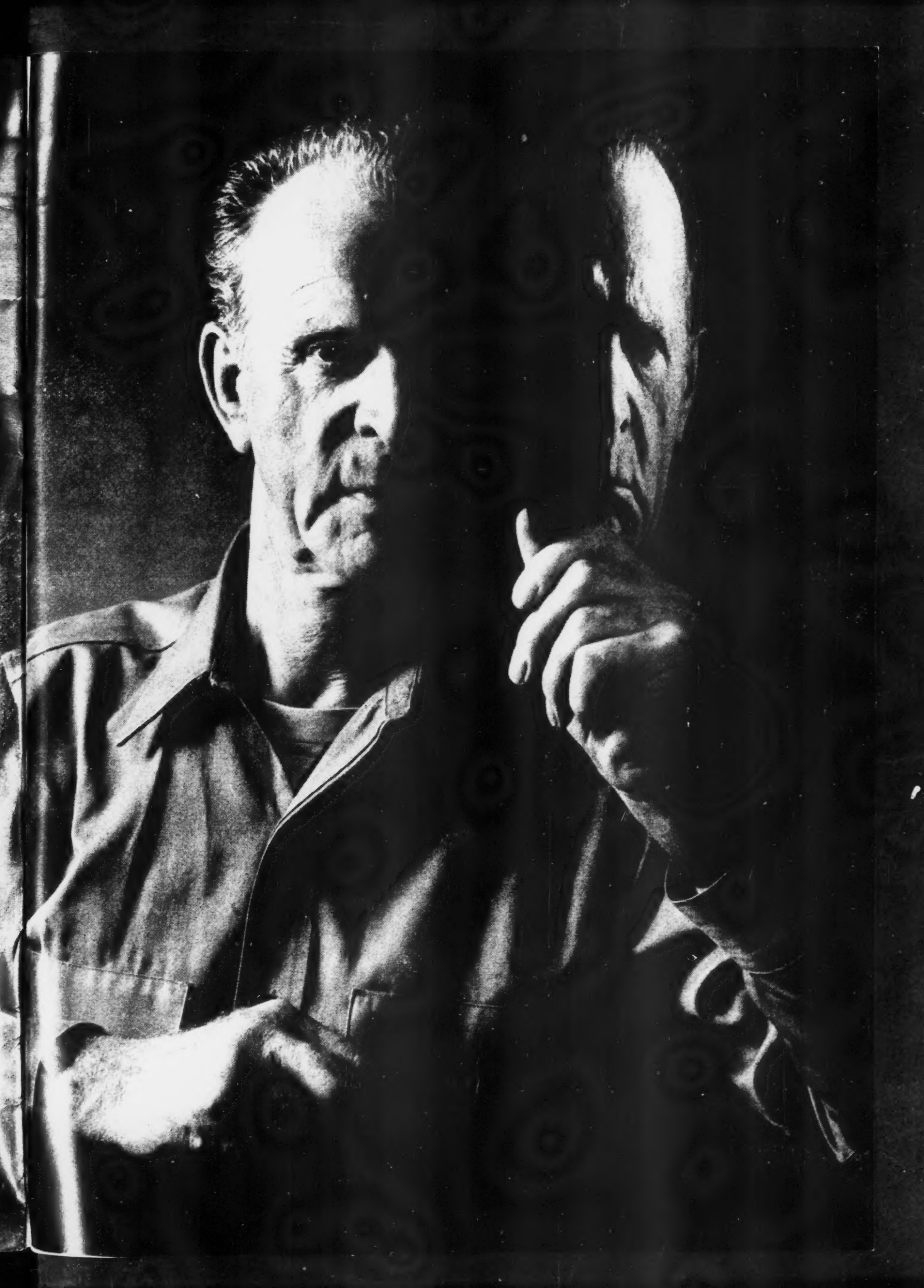

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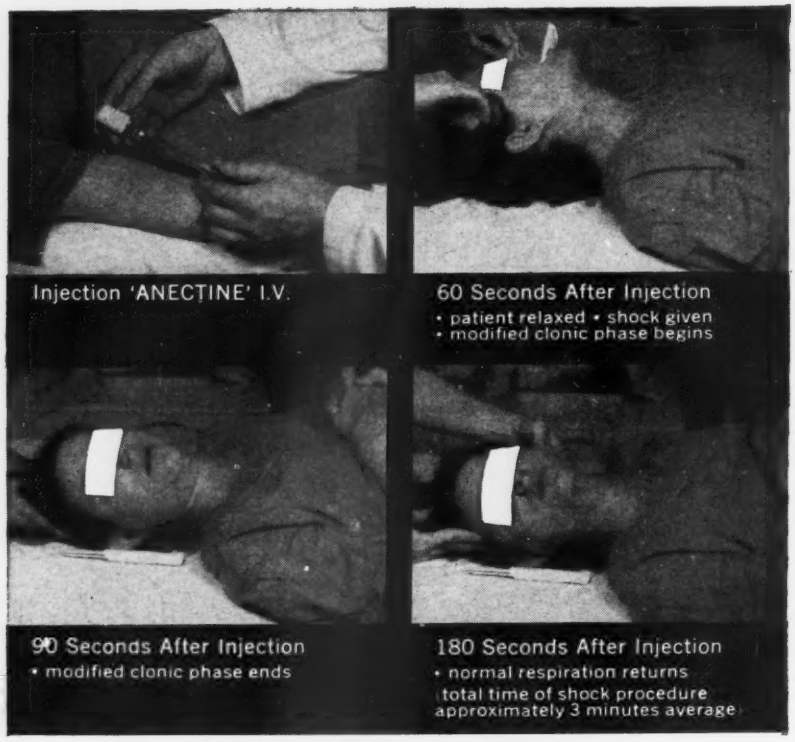
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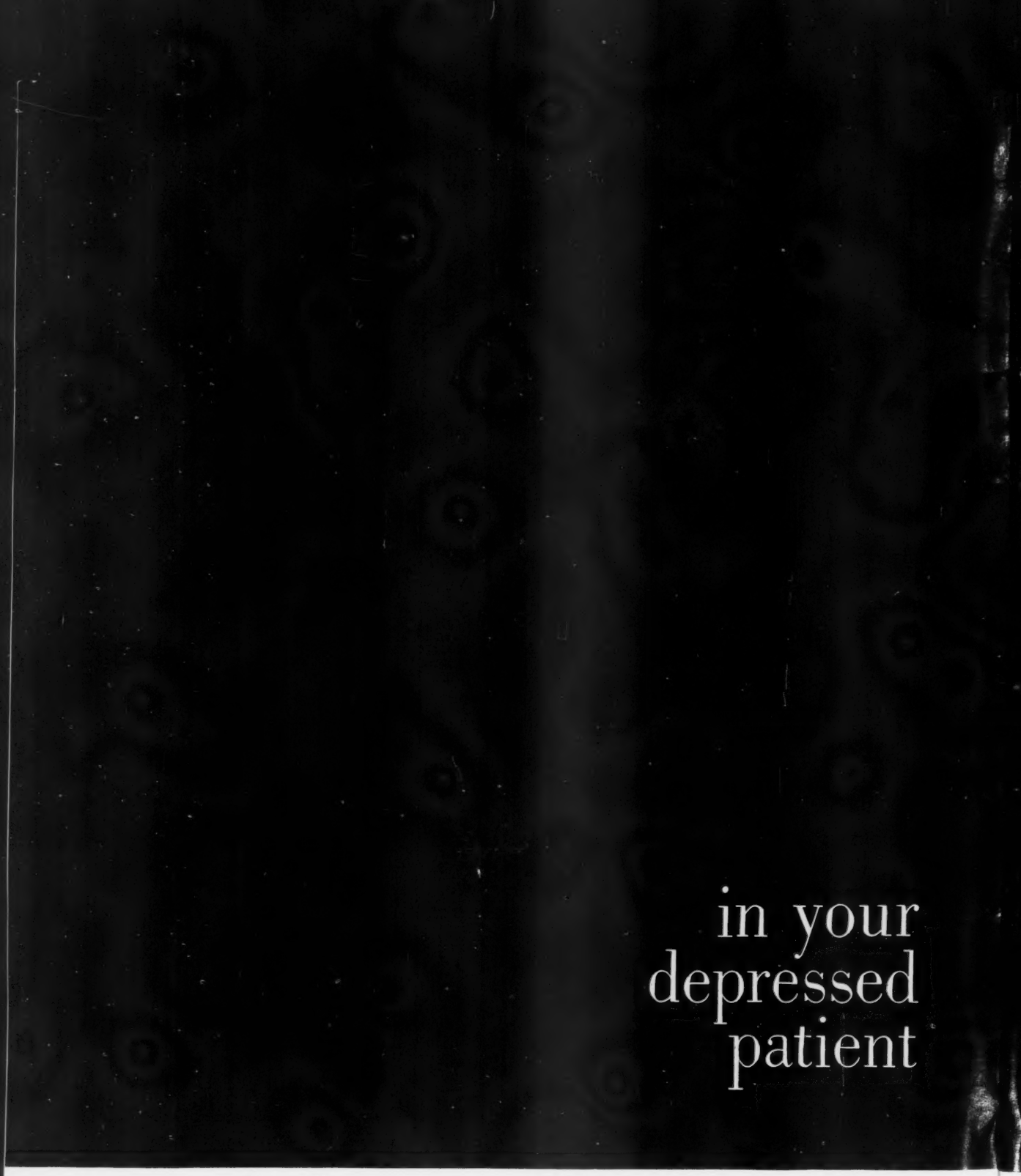

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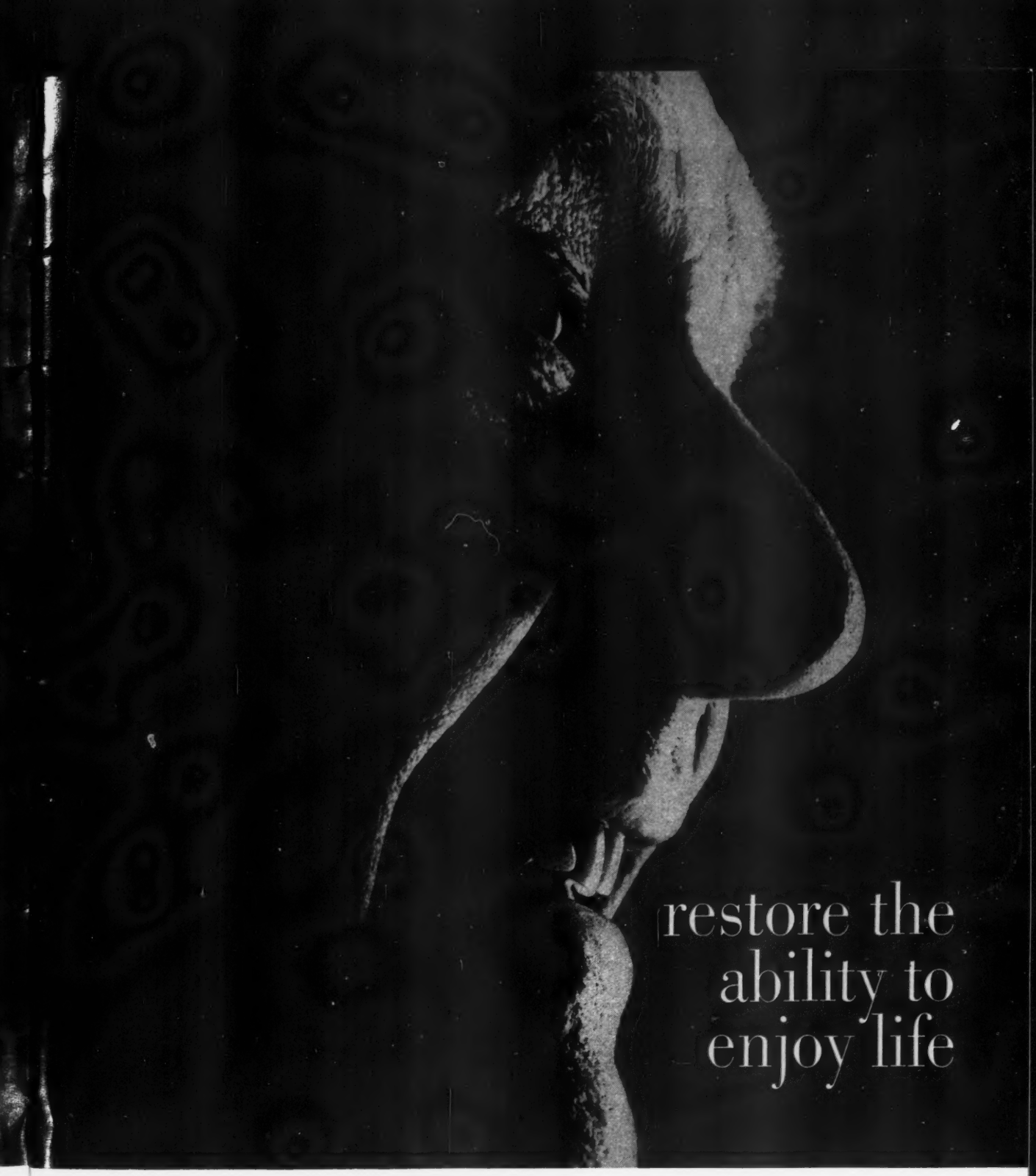

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The Release of Psychiatric Semiotics

G. M. DAVIDSON, M.D.

Faraday sought the seat of the phenomenon in real action going on in the medium.
Clerk Maxwell.

I

If we inquire into the etiology of psychiatric semiotics we must acknowledge that we do not find specific psychiatric symptoms or specific causes that produce specific symptoms. The biological concept expressed by Jennings, that what may be considered "the" cause of a condition is often not the cause at all and that "causes" are multiple applies to psychiatry as well. Our inquiry was further prompted by two other modalities of reasonsing: a) the revolutionary departure from traditional thinking in regard to the laws of causality by modern physics which replaces thought in objective processes by the new *complementarity* in thinking (Heisenberg's principle); and b) the shift of emphasis in the history of science from the old question "why" something is to the new question "how" it came into being.

Psychologically the question "how" is of a higher level of development of consciousness than the question "why." Piaget points out that the child up to the age of eight is guided by the question "why" with reference to the outside world. From eight to puberty the child asks "how" things came about. The question "why" seems to be the basis for the search for a single competent cause to explain a phenomenon. The question "how" implies multiple causation.

Even if we do not know of any specific etiology of psychiatric semiotics, it is essential for practical purposes to outline, at least theoretically, a possible mechanism of the emergence of clinical phenomena. Consequently, I shall approach the problem from the angle of my concept of the *final common path* of the *total personality,* an approach that emphasizes a non-specific operational mode for the *release* of psychiatric semiotics, an approach compatible with the search for specific etiology for psychiatric manifestations.

It is important to note that in studying psychiatric *semiotics* that a single phenomenon is seldom, if at all, of any particular significance. Usually clinical symptoms are grouped together to form a clinical syndrome. Accordingly, in speaking of the *release* of psychiatric semiotics it is with a clinical syndrome that we shall essentially deal.

Before expanding this approach, I like to call attention to Freud's[21] observation that a crystal thrown to the ground will break, not in a haphazard way, but in accordance with the lines of cleavage. It separates into fragments formed by the structure of the crystal, although the lines of the structure are invisible. The allegory refers to the structure of the personality symbolically expressed in: *id, ego, super-ego* and *reality.* In order to have a properly functioning organism it is essential that it be composed of the proper material. It is equally essential that the constituent parts interact properly with each other and with other things. The total personality comprises organisms, function and environment, and the multiple levels of the totality are educated to work for the benefit of the totality. Failure of such harmony will result in disorganization ranging from simple inefficiency to catastrophy. Knowledge of the following principles helps one to understand the mechanisms at work:

1. The general biological principles of adaptation as given by Paul Weiss[37] who

called attention to various levels of adaptation of the organism, such as the *cellular* level where harmonious coordination of molecular processes are noted, and the *tissue* level where collaboration and interdependence among cells as well as cells and medium is observed; the reciprocal activity of organs, as well as the remarkable complementaries of the sexes, etc., must also be kept in mind.

2. The principle of telencephalization of functions, meaning the general biological principle of the striving of a function to the summit as emphasized by C. Economo.[19] In the case of man it is the striving of a function toward the central nervous system; and toward mind, a collective function. Integration of the totality is the result of several agents, such as the mechanical, the chemical, etc., as emphasized by Sherrington. Integration proceeds on *segmental* and *hierarchical* lines. To begin with there is an advance in differentiation of viscera and glands before the neural plate is differentiated. However, the primary physicochemical integration combines itself with the nervous system at the second month of fetal life. The anabolic parasympathetic evolves before the catabolic sympathetic system. These facts together with experimental evidence suggest that the central nervous system requires for its proper functioning continued impregnation with biologicals which are produced at various levels of the totality. The psyche is constructed and oriented upon the brain but its horizon is much wider than neurological mechanisms. It is only in action that both psyche and brain fuse to form an *ensemble*. This is the reason why there are so many causes and so few clinical pictures of personality disorganization.

3. The principle that there can be no effect without an *interweaning medium*. The latter is identified with the internal *milieu* which comprises cells and medium and which in turn I consider the common field of action for both physiological and psychological phenomena. (Zondek spoke of the *sympathetic-parasympathetic* system, the *endocrines*, and *electrolytes* as a functional unit—the vegetative nervous system. I like to add to it *affectivity* as a fourth aspect of the unit, since emotions virtually reach tissues.)

II

I like to establish an operational view on the hierarchical order of integration which may be accomplished by evaluation of the views of Hughlings-Jackson[25] who at the end of the last century was able to envisage the dynamic trend of our times. While some of his theories are not acceptable today the spirit of his work may still serve.

Hughlings-Jackson considered the central nervous system to be a series of sensorimotor reflex arcs superimposed upon each other, the lower being most organized and functioning automatically, the highest being least automatic and less organized. In dissolution the process is in the reverse order; the highest levels suffer first, the lowest last (clinically true). Hughlings-Jackson differentiates the anterior spinal horns and the nuclei of the cranial nerves as the lowest motor levels; the central gyrus as the middle motor level, and the frontal lobe as the highest motor level. These levels together with their corresponding sensory levels constitute the lower, middle and higher sensorimotor reflex arcs.

Each reflex arc except the lowest, according to Jackson, inhibits activity of the lower one. Therefore, clinically we observe *positive* symptoms by way of release of uninhibited lower arcs, and *negative* symptoms by way of loss of function of a diseased arc. We must add that the picture is still more complicated by the fact that there are attempts at compensations of unaffected parts which may cause admittance of additional clinical phenomena.

From the sensorimotor attitude, perception is not only a matter of cognition but also action. For instance, when we *see* something, we move our eyes; when we *smell*, we inhale; when we *hear*, we also turn our head toward the sound. Hughlings-Jackson speaks of two varieties of reflex action: the *complete* and *strong*, that in which all the levels lower, middle and highest are engaged, and the *incomplete* and *weak* reflex action in which the highest cen-

ters only are engaged and then only slightly. The former takes place when we have a *vivid* mental image, and the latter takes place when we think of an object or when we have only an idea of it, a *faint* image. In this case the lower and middle levels are not engaged. We think only with the upper part. The sensorimotor chain is not fully utilized, contrary to an actual thing when all links in the chain are engaged. Hughlings-Jackson has the same attitude toward motion. Consequently, he sees every voluntary and involuntary act (in the latter case one may consider unconscious perception) as arising from sensory paths concomitant with a vivid or faint image. Of course, "higher and lower levels" should be understood only as symbolic of cross section activity. Actually the brain acts as a whole and is "assisted" by facilitating local areas. For instance, Penfield[35] in discussing memory mechanism postulates an integrating system outside the cerebral cortex, but in the higher brain stem there is equal function contact with the cortex of both hemispheres. He calls it the *centrencephalic* system.

III

While emphasis may be placed on the totality of the human organization we have no decisive means of measuring the totality. Perhaps the principle of a *common final path* of the *total personality* as a coordinating mechanism, akin to the principle of Sherrington regarding a final common path for neurological mechanism, may help to develop a technique of measuring the totality. From an evolutionary biological point of view affectivity evolves from the original irritability of the cell identified as the "mental component" of the cell. Affectivity is thus the background and soil of sensibility of the living organism in all its nuances.

From the same viewpoint affectivity will measure the bodily power to absorb and reflect all stimuli. In accordance with the principle of telencephalization affectivity in its integration goes along in harmony with the integration of the central nervous system, and will be projected upon the brain. One may speak of "thalamic" and "cortical" affectivity. The former is intense and widespread and overflows into the motor field (emotions are considered the motor end of affectivity). Since it is "trigger-like" in action the activity is interpreted as "impulsive" or as "acted-out." "Cortical" affectivity will be discriminatory, guided by selectivity and manifested in "choice" and "refusal." The degree of selectivity varies with each individual.

In the course of evolution of the original irritability of the cell to affectivity there is a state of "awareness" which may be considered an intermediate stage in the development of consciousness. If this concept be true, then we can speak of a "double-concept" of consciousness and affectivity, both being projected upon the brain and having a common field of adjustment. In fact, it is known that affectivity influences the width of the horizon of consciousness and that affective experiences are combined with a smaller or greater loss of consciousness. This concept seems to find support in the neurological studies of Head and Holmes, Herrick, Papez, and others. Papez[32] concludes among other things that the *hypothalamus,* the *mammillary bodies,* the *anterior thalamic nuclei,* the *girus cinguli,* the *hippocampus* and their interconnections constitute a mechanism of central elaboration of emotion. The basal ganglia appear to have also something to do with maintenance of consciousness and affectivity. To sum up, it may be postulated that affectivity, diffused through the entire organism and projected upon the brain, represents the *final common path of the total personality.*

Moreover in the study of psychopathological phenomena it is to be noted that a single phenomenon is seldom of clinical significance. We usually observe more than one phenomenon in the same case. Once present, clinical phenomena tend to group themselves together to form a syndrome. It is therefore important to establish a clinical unit—a *Gestalt-Syndrome.* Traditionally a syndrome is defined as a symptom-complex of a disease entity. Such a definition is not satisfactory, for the reason that the syn-

dromes assemble unrelated phenomena. For instance, in a case of general paresis of a woman 49 years of age who in addition to definite serological findings and cloudiness of sensorium has shown unmistakable symptoms of melancholia of the involutional type with ideas of guilt, etc. Here one has "negative" symptoms of functional deficiency as manifested in intellectual impairment, and "positive" symptoms as expressed in symptoms of melancholia.

One may conclude, that in general paresis the symptoms are based on: 1) structural changes of the brain; 2) toxic states, and 3) other personality elements instrumental in integration and defense of the total organism. Consequently, a syndrome is regarded as the external exponent (symptoms) of various factors which have as a background the total personality and are rooted in changes of the internal milieu. It is important to appreciate that symptoms reach a certain degree of intensity and growth. Failure to take growth into consideration may lead to incorrect evaluation of a symptom as when the growth of hypochondriacal ideas, ideas of negation and nihilistic ideas are not properly taken into account. Studies have shown that the organ is the subject of the hypochondriasis the existence of which is later denied.

In the search for clinical entities psychiatrists often make the mistake of identifying a syndrome with an entity. By introducing the concept of the *final common path* of the *total personality* it became possible to isolate *fundamental* clinical syndromes with the possibility of emergence of other syndromes in the future.

IV

Next comes the question of operation of telencephalization. According to Burridge[4] neurons are rhythmical tissues in continuous state of activity. Excitation is therefore an act of addition rather than striking as commonly understood. Excitation has a psychological counterpart—*responsiveness*. The activities which evoke responsiveness are neural. The activities of the excitation process depend upon the combination of colloidal aggregation (*L*) and *electrolytes* (*H*). *L* gives data for sensation and *H* supplies the emotional tone and judging capacity. The action of the two elements is synergic. The more there will be of *L*, the less of *H*, and vice versa. *L* plus *H* give the factor *T*, which in turn denotes the capacity of the brain for *responsiveness*. In case *L* and *H* are maladjusted, uneasiness and agitation will occur. An overstimulation of *L* will result in shock. If the capacity of *T* is surpassed, there will be unconsciousness. Responsiveness may be augmented or diminished. There are two types of augmentation: the *rapid* and the *hysteresial* which has the following chief properties: 1) The reaction outlasts the action of the evoker (after-effect), a phenomenon which explains why clinical symptoms may persist long after the cause which initiated them has subsided; 2) Augmentation takes time to develop; 3) Augmentation shows marked capacity for summation; 4) It depends on adequate oxidation process. Of further interest is the fact that rhythms may be quickened or slowed. Again, there may be a change in amplitude of the excitation process; the greater the amplitude, the slower the response.

Burridge further postulates that electrolytes and colloidal aggregation have relationship to clarity of consciousness. A low degree of consciousness may be identified with a low *ionic milieu*. In such a state mental images will be faint and easily repressed. In high ionic efficiency mental images will be vivid emphasizing the importance of the *internal milieu* as the common ground of interaction of physiological and psychological expression of the total organism.

In the relationship of rhythmical activity to the vegetative nervous system, the sympathetic appears attuned to slowed rhythms, while the parasympathetic system is attuned to quickened rhythms. The former is connected with mediation of fear, rage, etc., the latter will be associated with libidinous values. However, if the individual has connected sex-ideas with disgust it will become connected with the sympathetic system.

This brings us to the neurophysiological problem and central inhibition. Two approaches made to the problem are the *monistic* and *dualistic*. I prefer the *monistic* view for the following reasons: Lorente de Nó[24] observed that the central cortex consists of closed chains of neurons in a state of continuous activity (compare with Burridge), and that inhibition of one chain of neurons might involve inhibition of other chains of neurons. In addition, there are no known separate inhibitory and excitatory synapses.

Pavlov[27] believes that cortical cells have two fundamental properties, *excitability* and *capability*. The cell has "top capability" (compare with factor *T* of Burridge), meaning if a stimulus reaches the top capability, the cell will react to such a stimulus with inhibition. I believe that the situation warrants the interpretation that inhibition may be regarded in certain instances as protective and defensive. Sometimes there may be a refractory state following excitation which may be the reason for resistance to therapy. The influence of stresses may also affect the physiological level of the totality.

An interesting theory pertaining to the operation of telencephalization is offered by Hebb.[22] According to this theory, based on Humphrey's review (quoted by Hebb) on "the problem of direction of thought," any frequently repeated particular stimulation will lead to the slow development of a "cell-assembly," a diffuse structure comprising cells of the cortex and diencephalon (and also perhaps the basal ganglia), capable of acting briefly as a closed system and having a specific motor facilitation. A series of such events constitute a "phase sequence"—the thought process. Each assembly action may be aroused by a preceding assembly or by a sensory event or by both. This central organization is regarded essential to adult behavior. It is assumed that the assembly and organization depend on a delicate timing which might be disturbed by metabolic changes as well as by sensory events. This will result in disorganization. If the latter is transient it may be called emotional disturbance, if chronic—neurosis or psychosis.

When this disorganization occurs, or when the factor *T*, or "top capability" of the cell is surpassed, one may assume that the total personality organization has reached a state of crisis, referable basically to failure of the hierarchical order of organization to acute or continuous impact of stresses, physical or mental. It is this crisis that offers the setting for the emergence of psychopathological phenomena.

V

With the foregoing in mind, the operational factors in the *release* of psychiatric psychopathological phenomena may be outlined as follows:

1. Factors belonging to growth and integration of the total personality primarily expressed in disorder of total affectivity and its constituents (impulses) in the sense of Kretschmer.[21] This may be considered the biological background of *mental conflict* on the conscious level, expressed by way of polarization of basic affective needs.[23]

Table I shows the frequency of disharmony of integration of various constituents of total affectivity as was investigated in 30 cases of schizophrenia and 30 cases of manic depressive psychosis with relation to pregnancy and childbirth[5]:

TABLE I

	Schizophrenia	Manic-Depressive Psychosis
a. *Total Affectivity:*		
Strongly differentiated	6	16
Diffuse	10	5
Ambivalent	5	9
Cool	9	0
b. *Sex Impulse:*		
Strongly selective	6	13
Diffuse	11	10
Insecure	9	6
Frigid	4	1
c. *Maternal Impulse:*		
Strong	6	10
Weak	11	6
Passive	8	8
Absent	5	4
d. *Intersexual Conditions:*	9	14

2. Factors belonging to the maintenance of the equilibrium of the *internal milieu* rooted in a system of defense of the total personality. Physiological aspects of defense involve cellular and humoral activities in addition to psychological forms of defense. Outstanding among the physiological forces is the *reticulo-endothelial* system[6] which is diffused throughout the organism and participates in release and cure of certain psychiatric disorders.

3. Factors precipitating and aggravating (affective, toxic, traumatic, etc.) states which may overcharge the capacity of the total personality to respond, or participate in dissolution of the total personality and result in mental conflict and stress.

In mental conflict the clash between the various constituents of total affectivity may be demonstrated clinically, for example, by symbolic activity attaining the level of a neurotic process which in *toto* may be regarded as a method of defense and adaptation of the individual. In many instances the neurotic process may assume constructive aspects and contribute to society (products of art, science, etc.). In others the process may become pathological. In each instance there is a tendency for the process to repeat itself endlessly for the reason that the neurotic process cannot achieve its goal. I believe that the reason it cannot achieve satisfaction lies in the fact that polarization of affective needs, such as the need for companionship, security, recognition and new experiences, in the sense of Linton,[28] does not result in gratification. It results in an imbalance of stimulation and depression of the neuropsychical function producing a continuous urge for repetition, since the brief period of stimulation creates a state of quasigratification.

Stresses may be physical or psychical. Clinically, it is safe to say that stress is psychosomatic in its expression (psychosomatic describing not its etiology but an ensemble or fusion of psychical and physical with emphasis on the role of the functional unit of the totality-affective-sympathetic-parasympathetic system-endocrines and electrolytes in the activity).

In this regard Selye[38] formulated the concept of a *General Adaptation Syndrome* which he defined as the sum of all non-specific systemic reactions of the body resulting from long exposure to stress. He differentiates: *the alarm reaction,* in which adaptation has not yet been established; *the stage of resistance,* when adaptation is optimum; and *the stage of exhaustion,* where the acquired adaptation is again lost. According to Selye, the stressor acts on the target, the body or part of it. A "mediator" travels to the anterior pituitary and induces the discharge of ACTH. The mediator may in some instances be an adrenalin discharge, in others a liberation of histamine-like toxic tissue metabolites, or a nervous impulse. We arrive here at the level of physiological mechanisms of defense. When the pituitary secretes ACTH in abundance it is at the expense of other endocrinotropic hormones, disturbing the equilibrium of the functional vegetative unit. It is important to understand that an increase in ACTH stimulates production of the adrenal hormones—*glucocorticoids* in which *cortisone* plays a major part, affecting the carbohydrate metabolism; *mineralcorticoids* where *desoxycorticosteron* plays a principal role affecting the salt and water metabolism with loss of potassium; and the *androgen* cortical hormones influencing the nitrogen metabolism and electrolytes. The *reticulo-endothelial* system is also a defense force and participates in the carbohydrate, water and salt metabolisms. Due to the mechanism of homeostasis the symptoms of the alarm reaction soon subside. Homeostasis finds for itself a new level, but the mental manifestations outlast the initiated causes (after-effect) and proceed on their own, as if dislocated from the totality.

Psychiatry has not yet taken cognizance of the stress theories of Selye. However, there is the work of Binswanger and Meier,[1] who in applying the adrenal functional test of Thorn in schizophrenia found that in early schizophrenics who react favorably to shock therapy findings are seen similar to those in the *stage of resistance.* Whereas chronic schizophrenics or "early" schizophrenics who are refractory to treatment show reac-

tions akin to those which mark the *stage of exhaustion.*

It appears to me that the formulation of Selye may be applied positively to psychiatric cases. The phase of release of clinical syndrome is the prodromal stage of a psychiatric disorder which is manifested in fatigue, anxiety, and introspection. It is a psychosomatic stage for which the patient is often first seen because of the somatic complaints. The prodromal stage seems to refer to the general alarm reaction when adaptation is not reached. The *stage of resistance* covers a long period, from the time the patient is able to get along in society in a neurotic way or resist the pressure of his ideation and feelings. A psychosis, when developed marks the *stage of exhaustion* (for exhaustion leading to death see reference 5).

VI

Recent successes with shock-therapies, psychomimetic and tranquilizing drugs have caused the psychiatric pendulum to swing to the extreme "organic" point with conclusions no less extravagant than those voiced in the past when the pendulum touched the opposite extreme—the psychological. I wish to point out certain fallacies of thought regarding the new therapies and the new experimental studies. For instance, Fink[20] compared certain clinical findings of convulsive therapy, insulin shock, lobotomy, and tranquilizing drug therapy. He believes that the "therapeutic process in the said therapies may be ascribed to the induction of a persistent alteration in cerebral function which provides the milieu for a change in adaptation of the subject to his environment." Fink evaluates the efficacy of each therapy in the treatment of the psychoses by two indices: a *delta* shift in the EEG, and an increase in instances of seizures. The neurologic basis for these indices, he observes, is not clear.

According to W. Grey Walter[36] the *delta* rhythm is associated with disease, degeneration, etc., and is a sign of mobilization of defenses of the organism. If so, the shift cannot be considered an index of persistent change in cerebral function. It is significant only by reason of the person's ability to use a defense. Thus it may be considered only a general factor. Concerning increase in seizures one cannot lump together all convulsions. Penfield[35] states "a seizure may be due to injury, to disease, or pressure, or lack of oxygen. The grey matter although it may continue to function may do so with abnormal additions of its own. There is a lack of regulatory mechanisms which normally limit excess of discharge. Thus an abnormal area ripens to a self-discharging electrochemical unit. This is called 'epileptogenic focus.'" Here again one cannot regard an increase in seizures caused by the therapies, as an index of their efficacy.

Turning to psychopharmacology, I like to quote Bleuler[2]:

> "Pharmacological investigations are developing a fantastic, unrealistic and speculative system from their important findings, for the simple reason that they have misinterpreted the psychopathological basis of their results. For instance, what would the chemist think of the psychiatrist who considered phosphorus, neosalvarsan and gold dust identical only because all three have a yellow color? . . ."

And the statement of Werner Heisenberg:[23]

> "The present relation between biology and physics and chemistry may be very similar to that between chemistry and physics a hundred years ago . . . the typical biological concepts are of a more qualitative character than those of the exact sciences. Concepts like life, organ, cell, function of an organ, perception have no counterpart in physics and chemistry. . . . Something has to be added to the laws of physics and chemistry before the biological phenomena can be completely understood. . . . The quantum theory has changed our attitude from what was believed in the nineteenth century. During that period some scientists were inclined to think that psychological phenomena could ultimately be explained on the basis of physics and chemistry of the brain. From the quantum-theoretical point of view there is no reason for such assumption. . . . We would never doubt that the brain acts as a physico-chemical mechanism if treated as such, but for understanding of psychic phenomena we would start from the fact that the human mind enters as object and subject into the scientific process of psychology."

F. S. C. Northrop[31] observes:

> ". . . a state of mind very common among contemporary experimental biologists and physiologists

. . . regard any reference to the form of the organism as a whole as very superficial which supposes if their chemical components are determined all relational factors will be taken care of automatically as mere products."

This last observation hits upon the crux of the problem, namely, upon our ignorance of the relationship of various levels of the total personality to each other and to the totality. Himwich,[24] basing his observations on insulin therapy in schizophrenia, advanced the idea that the brain depends for perfect working order upon the coordination of five separate layers (cortical, subcortico-diencephalic, mid-brain, upper and lower medulla) "each capable of mediating a distinct pattern of response, and all integrated with the cerebral cortex." This concept is in line with my view that the psychopathological manifestations of a personality disorder are due to the mind dislocating itself, as it were, from the totality and functioning on its own.

VII

Attempts were made to outline, even if in a broad way, the operational aspects of *release* of psychiatric semiotics. It was stated that a symptom seldom occurs in an isolated way. Symptoms tend to group themselves significantly to form a clinical syndrome. Treating the problem in a non-etiological, non-specific way, we oriented ourselves on *affectivity* as the final common path of the total personality, as a coordinating mechanism. *Affectivity* emerged also as common denominator for personality disturbances. For instance, in manic depressive psychosis we have heightening or intensification of affectivity. In schizophrenia we have the primary signs of disturbances of affectivity toward withdrawal. In hysteria we have conversion of affectivity. With reference to evolution of a symptom, we may have in conversion hysteria, for instance, complete or incomplete conversion. In incomplete conversion we have anxiety-hysteria. We may also have complete or incomplete projection of affectivity; complete in paranoia, incomplete in paranoid conditions. It is interesting that we may also find affectivity, a common denominator in organic states. For instance, dementia may be regarded as a state of dissolution of affectivity. This approach allowed differentiation of a number of fundamental syndromes. Others were considered variants of the fundamental ones. The following is a tentative table of classification.

Fundamental Syndromes:

Syndrome of Oligothymia[17]
Syndrome of Alarmed Affectivity (anxiety states)
Syndrome of Conversion of Affectivity (conversion hysteria)
Syndrome of Displacement of Affectivity (obsessive compulsive states)
Syndrome of Withdrawal of Affectivity (schizophrenia)[15]
Syndrome of Projection of Affectivity (paranoia)
Syndrome of Intensified Rhythm of Affectivity (manic depressive psychosis)[16]
Syndrome of Inversion of Affectivity (involutional melancholia, agitated depression)[9]
Syndrome of Projected Inversion of Affectivity (acute hallucinosis)[10]
Syndrome of Suspended Affectivity (the Korsakoff syndrome)[14]
Syndrome of Blurred Affectivity (confusion and delirium)
Syndrome of Dissolution of Affectivity (dementia)

Variants of Fundamental Syndromes:

Psychiatric Semiotics associated with

Intoxication
Infections
Traumatism
Cryptogenic Epilepsy[16]
Brain Tumor
Multiple Sclerosis
Vascular Disturbances
Aging[10]

may take on the character of a fundamental syndrome such as a schizophrenic-like reaction, a confusional state, etc. For instance, the statistical guide of the New York State Department of Mental Hygiene *senile psychosis* shows the following subtypes which in line of this presentation may be thus formulated: 1) *Simple deterioration* shows Dementia (Prototype of the Syndrome of *Dissolution* of *Affectivity*), 2) *Presbyophrenia* shows a Korsakoff-like picture (a variant of the syndrome of *Suspended Affectivity*), 3) *Delirious* and *Confused* type falls in line with the syndrome of *Blurred Affectivity,* 4) *Depressed* and *Agi-*

tated type demonstrate a variation of the syndrome of *Invasion* of *Affectivity,* and 5) Paranoid type belongs to the syndrome of *Projection* of *Affectivity.*

Summary

The matter of the release of psychiatric semiotics is discussed from an unbiased, nonetiological operational point of view. This became possible by way of introducing the concept of the *final common path* of the *total personality* which is affectivity. The approach emphasizes multiple causation and multiple effects.

It is concluded that unless we learn about the nature and operation of affectivity in mental states real progress cannot be accomplished in clarification of the release of psychiatric disorders.

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Psychological Consultation in Psychiatry

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Psychological consultation is currently available to psychiatrists in many settings where it is ordered as a contribution to the case study, or because of what it may offer to teaching programs or to medical research where personality factors are regarded as relevant. Yet this service is comparatively new and its eventual role and character are uncertain. Essentially in the past decade, an appreciable number of publications dealing with aspects of this topic have appeared. Harlow and Salzman[3] have recently offered, in a psychiatric journal, a practical, succinct guide on how the services of the psychologist may be effectively utilized. The interest of psychiatrists in this matter was well demonstrated in that the psychological test report was a discussion topic at a 1958 dinner meeting of the American Psychiatric Association.[1]

This paper presents a viewpoint on the psychological consultation, primarily as used in psychiatric case study, through an integration of portions of the scattered literature on this subject with some evolving concepts based on this author's research and study. The propositions advanced are that the psychological consultation is in many respects unique in medical practice, and that the salient aspects of such uniqueness need to be understood, its shortcomings allowed for and its assets capitalized. Finally, it is urged that the development of the psychological consultation as a method, and its optimal use in daily practice is a continuing and joint responsibility of psychologists and psychiatrists.

The fact that large numbers of psychologists now are employed in medical settings has resulted in some gross resemblances between psychological consultations and those supplied by various medical specialists. But the analogy cannot be stretched too far. The psychologist is not a medical person even though his training, techniques and orientation overlap somewhat or are complementary to those of the psychiatrist, in the area of personality.

Psychology is a new science and the applied use of knowledge of human behavior by psychologists is still newer. Many psychologists are concerned over present inadequacies in personality theory and how these limit one's ability to understand a given individual. Likewise, the psychologist is aware that his techniques have only relative validity and that their appropriate application is circumscribed. He is not obsessed with the negative, however. Relevant research has generally shown that current psychological tests are of acceptable validity and has suggested cautions which are appropriate to their use. Further, psychological tests cannot be thought of in terms of abstract validity or reliability since the skill and wisdom of the psychologist are also required for their effective administration and interpretation of the results they yield. Their usefulness is also a function of how the report of conclusions based upon psychological methods is presented to the referral source. The psychologist's contribution, then, is most effective when he uses his instruments to meet the clinical problem at hand, when he selects from the mass of data derived from the psychological examination that which is most relevant to the question, and communicates it clearly and succinctly. It is often desirable that the psychiatrist have some comfortable familiarity with the format and content of tests and their theory and clinical application. It is helpful for him to work with the psychologist to the end that test findings are reported so as to best supply the information for which referral was made.

Basic to the effective utilization of the psychological consultation is a clarification of views on the role of the psychologist, on the nature of the materials with which he works, and of the sort of product he is able to deliver when asked for assistance with a case.

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Role of the Pychologist

Any *a priori* definition or limitation of the diagnostic role of the psychologist is not particularly feasible, although it is generally agreed that the psychologist by training and experience is expert in the use of psychological instruments. The psychologist, in effect, functions according to what he conceives his role to be and within the effective limits which might be imposed by his place of employment. Psychologists in different settings, therefore, might tend to carry out their duties somewhat differently.

Some would ascribe to the psychologist the role of laboratory technician. This title fairly accurately characterized a good share of clinical psychological practice in early days, and with some justification might be descriptive of the function of some present-day psychologists. In a large percentage of such instances those who so perform probably are in a training status or below the level of academic training and experience recognized by the American Psychological Association as minimal for responsible professional functioning.

Typically, current clinical psychology includes the sort of activity which is usually thought of as fitting the consultant role. The psychologist is actively involved in the case, is familiar with the history and the problem facing the clinician. His testing and other psychological procedures cannot, for compelling technical reasons, be predetermined by outside direction or in accordance with some set and standard procedure; nor do his activities culminate in the extraction and development of predetermined data components which are delivered uninterpreted, without regard for the clinical problem.

The psychologist, as a student of behavior, has developed unique areas of competence in the evaluation of human personalities. Psychological tests and their selection as applied to individual patients, the interpretation of data which derive from psychological techniques, and the effective organization and communication of the findings based on psychological procedures as related to a specific problem are all matters of the psychologist's specialty. The development of a role centering around expertness in psychological testing recalls the evolvement of the current position of the radiologist—where the recognized alternative had been that the diagnostic functions of the radiologist be carried out jointly by a technician and medical specialists interpreting their own films.[2]

Perhaps one basis for identifying clinical psychological testing with laboratory measuring procedures is that psychological tests are widely regarded as simply applied objective tools. A word from the psychological glossary — "psychometric" — suggests that this is so. In meeting the problems confronted by the psychiatrist, however, we do not have tests which can be used by subprofessionally trained psychological personnel. We do not have tests which can be routinely administered as a teacher does in testing the achievement of her pupils (even here, a psychologist is required for those pupils who present special problems), nor do we have tests which yield scores or other data having more or less obvious meaning or inferential value to the clinician.

In clinical psychological practice the meaning of objectivity becomes somewhat blurred, even the so-called objective tests being interpreted in a manner which yield information not available from the standard use of the test. A simple example of this is where the psychologist makes an inference of mental or emotional disorder by comparing the various scores a patient achieves on a test of intelligence. Nor does an objectively derived score have much meaning without interpretation and integration with other data on the individual. Here is a patient who obtains an I.Q. of 127 on a given test. Can one know from this if he is a good psychotherapy risk, if he has sustained sufficient deterioration to meaningfully affect his functioning, if he is likely to be successful in an educational program which involves formal schooling, or if he is able to assist about the hospital with routine clerical duties?

Psychologists are actively working to develop objective tests, or to add objectivity to a number of current tests, but objectivity is not a goal in itself. Research has shown that, just as is the case in other applied en-

deavors, some clinical psychologists tend to be more effective than are others in their clinical judgment. Such results may suggest that both knowledge and clinical acumen have value in personality evaluation. Clinical acumen is not thought of as some mysterious power, or as innate or instinctive, but as an observable skill stemming from experience and hence as involving learning. Like his medical colleagues, the clinical psychologist responds to a variety of cues, forms hypotheses and arrives at judgments. He engages in reasoning, but he also demonstrates an intangible use of experience and "feel" —a telescoping, as it were, of the step by step reasoning used by the beginner. The psychologist, in evaluating the patient's test productions and the patient's clinical behavior as this relates to the testing situation, goes largely through the same procedures of responding to verbal and bodily cues as does the psychiatrist in his diagnostic interviews or in the running evaluation that occurs in therapeutic sessions. The major differences are that the psychologist utilizes standardized stimuli and relates largely to different cues (test responses). One of his chief goals is to find useful information which may supplement that which is derived through psychiatric evaluation.

The psychologist consultant becomes involved with a specific patient at such time as he receives a referral from the psychiatrist who has the responsibility for the patient's evaluation, treatment and disposition. The manner in which the request for psychological consultation is made may have great bearing on what testing is done, on what is written into the psychologist's report, on how the report is oriented, and on how useful the report is to the referring psychiatrist. The wording of the psychiatrist's request for service may also be an important consideration in how effectively the psychologist utilizes his diagnostic time.

Referrals for psychological evaluation seem to fall roughly into two classes: the general referral and the specific referral. The former makes reference to requests which come to the psychologist with wording such as "psychological examination," "psychometric testing," "for psychological testing," "psychological survey," or "have the psychologist test this patient." Such a referral can be inefficient since psychological testing may yield information about many facets of personality, and the psychiatrist very likely is not practically interested in all of them. So the psychologist may resort to a guessing game about what sort of information is needed, perhaps using whatever knowledge about the patient that is available to him to guess what problems are confronting the psychiatrist. Or he may approach the psychiatrist to "pin him down" on what is wanted. More often, however, he resorts to using a more or less standard test battery and to submitting a more or less standard report. Little wonder then that so many psychological reports tend to lack individuality. Too many reports utilize the shotgun effect, hoping to miss nothing which might be of potential value and thus to avoid possible criticism. Unfortunately, the communication value of such a report might be low, as is the amount of effective information conveyed.

There would, then, seem to be some merit in making requests for specific information. Examples of specific referrals are:

"From what sort of psychotherapy is this patient most likely to benefit?" "The patient's family indicates that a suicidal threat was made prior to admission. Are there any further indications that he might be potentially suicidal?" "Six months ago the psychological examination showed disturbance of the formal thought processes. The patient has since improved considerably. Are the thinking disturbances previously noted still present?"

Psychological Tests

Given a specific problem to deal with, the psychologist must next decide on a *tentative* battery to elicit the sort of information he feels is needed to contribute to the case study. He may fall short of his purpose if he limits himself to one test, say the Rorschach, or even to a few prespecified tests. Psychologists have no doubt erred in overselling certain tests to the point where others on the psychiatric team place more value on a given diagnostic instrument than do the

majority of psychologists. It may be so, for example, that some psychologists can perform amazing feats with their ink blots, but the value and the infallibility of the test is being overstated when members of the psychiatric team confidently seek the solution to practical problems in a given psychodiagnostic procedure: "Patient X should have a Rorschach."

This position is advanced because psychological tests are not specific in the sense that a given test provides certain definite bits of information or classes of information. (Even an intelligence test cannot be counted on in all cases to yield a dependable estimate of functioning intelligence.) There is, in fact, much overlap in the data which are provided by the various tests in a battery. This should be regarded as an asset rather than as a shortcoming. As the test results from the entire battery are sifted and collated (the individual analysis of each test is now regarded as old fashioned, but still useful as a training device), similar data from different tests support one another and strengthen the confidence with which the psychologist may present his conclusions. The data as they thus appear from diverse sources shed light on the level of any particular trait as well as on individual nuances of behavior which make each patient different from all others, even from those who have similar gross traits like dependency, hostility, inferiority feelings, etc.

In planning his testing, the psychologist preselects his battery in terms of the sort of information he feels he needs and in terms of the sort of data which various tests usually yield. Thus, he may plan to use the Wechsler Adult Intelligence Scale to evaluate intellectual functioning, the Rorschach to determine the personality structure, the Thematic Apperception Test to get at some of the content of personality—the needs and press, the Benton Visual Retention Test for evidences of encephalopathy as these may be seen in certain aspects of psychological functioning, and the Blacky Test for information on psychosexual development. But responses to all psychological tests represent a controlled, if somewhat artificial sample of an individual's personality which provide paths to the understanding of everyday behavior. These tests are to a greater or lesser degree unstructured, or permitting of a certain freedom of response, thus making it possible for the patient to reveal himself in one way or another each time he is presented with a test stimulus. Seen in this way, various significant personality qualities may be, and routinely are, disclosed on any number of tests.

In evaluating a given patient, a Wechsler test may provide minimal information concerning practical intellectual functioning, but a Rorschach might give much better understanding of this personality component. Rorschach content may yield significant data concerning fantasy which is not disclosed by a thematic apperception test. Or again, a patient may give the examiner a bleak Rorschach protocol of little practical value while significant aspects of personality structure and sometimes of dynamic content may be inferred from the manner in which a patient deals with the exercises of an intelligence test. Little publicized instruments like the Object Sorting Test or a word association list on occasion yield deeper insights into a personality than some of the more touted components of the psychologist's armamentarium. In practice, therefore, the psychologist is very cognizant of the sort of data he is eliciting as his testing proceeds. He becomes aware of leads which he follows up with additional data, and otherwise adds to or subtracts from his tentative battery in the light of his specific task.

Psychological Reports

Once the psychologist has elicited his data, however rich and significant these may appear to be, his contribution to the psychiatric study is not yet established. If his work is to be of any ultimate value to the diagnosis, treatment and disposition of a given patient, all significant findings must be readable, effectively communicated to the referring psychiatrist and other members of the team, for example, nurses and social workers who have need to understand the patient's psychological make-up. Some psy-

chological reports meet this criterion splendidly. Alas, it is no secret that some do not.

It is strange that psychologists have busied themselves with test development and with many thousands of pieces of research on diagnostic tests, but only a handful of writings on the communication of psychological findings has appeared. Interest in this topic now seems to be developing and deficiencies probably will be repaired. Several manuals intended to serve as a guide to clinical psychological communication are reported to be in preparation.

In undertaking research on clinical psychological reporting several years ago, the writer set out (in retrospect, naively) to gain information on how best to prepare such reports. The conclusion is overpowering that there is no best way or correct way to carry out this duty. In the research referred to,[5-7] more than 1500 psychiatrists, psychiatric social workers, and psychologists rendered opinions on what sort of data constitute proper content for psychological reports, and on various aspects of style (including structure) of the report as these relate to comprehensibility and clinical utility. Many of these workers were also quite frank in responding to the sentence, or paragraph root: "The trouble with psychological reports is . . ."

It should perhaps not be surprising that there is widespread disagreement concerning what is desirable and what is not desirable, what is good and what is wretched about psychological reports. Nor should it be jolting to find that there are differences of opinion between professions. It is quite understandable that (say) psychologists and social workers, having different backgrounds and different areas of clinical function, should also have some differences of orientation. But it is perhaps surprising that, within a profession, that which some workers felt to be desirable was criticized, even roundly denounced by other workers. Some of this discrepancy, however, would appear to relate to more profound differences among those who participated in the studies.

To amplify briefly on this matter, many psychiatrists (and psychologists) consider that the psychological report makes a contribution to the case study when it offers suggestions for a diagnosis, for a prognosis, or includes recommendations for treatment. Other psychiatrists protest that the development of such content is not properly the function of the psychologist. In the experience of a very large number of psychiatrists (and other clinical workers) the psychological report is too long, but some report that it is too short. A good proportion of the psychiatrists surveyed felt that psychological reports are deficient in offering too little raw data; others complained that psychological reports offer too much raw data. . . .

Differences of emphasis on various aspects of the appropriateness of report content must also be examined. Let us consider, for example, the question of whether the psychologist should routinely report an I.Q. for patients. Many are perhaps unaware that a difference of opinion among clinical workers does exist here. Yet many psychologists are not much interested in a number which purports to tell how intelligent a patient is. Often psychologists are likely to regard this as an incidental matter, or not particularly contributory to the psychological understanding of a patient. The great interest in the I.Q. is due, no doubt, to all of the importance placed upon this concept by educators and by the then emerging science and profession of psychology in the 1920's. It was part and parcel of the "testing movement," the high water mark of psychology at the time, and it was oversold.

The current generation of psychologists is much less excited about the I.Q. After all, the major valid use of the I.Q. is as a predictor of scholastic aptitude (its original purpose, incidentally), to a lesser extent as a predictor of vocational aptitude, job success, etc. It has major clinical use when a question of mental deficiency, of incapacitation, of rehabilitation or trainability arises. Today's clinical psychologist therefore prefers to report an "intellectual evaluation" since he feels that this provides an understanding of strong points and weak points plus insights into the qualitative aspects of intelligence which may be of much greater

importance than a score. Further, he prefers, in the spirit of seeing the patient as a "whole person," to integrate the intellect with other aspects of personality, thus giving a truer picture of how the patient functions in life situations. How, for example, has psychopathology affected the patient's ability to fend for himself in a competitive world, or what practical import might an established brain syndrome have on the patient's abilities.

A similar problem centers about the reporting of raw data (actual test responses of the patient). Some tendency exists for the psychiatrist to want to see such data in the psychologist's report, but most psychologists want essentially to report their interpretation of the data, perhaps with some "supporting" or illustrative raw data. It would seem then that the procedure many psychologists propose differs from medical practice where the physician receives for his own interpretation laboratory data, or a report from the radiologist, pathologist or clinician consultant which makes clear reference to the data which form the basis for whatever conclusions may be suggested. Is such departure from what physicians do justified?

The position of many psychologists is that there is far from a one to one relationship between datum and interpretation. A particular test response or a bit of test behavior such as might be yielded by a Rorschach: "two bears fighting," "an explosion," or "shading shock on Card IV" does not particularly "mean" anything. It would not be responsible conduct for a psychologist to take any of these items out of context and say what they "mean" (essentially the idea of universal symbolism), therefore, to quote such content to support a conclusion can hardly be more valid. This usage of content is perhaps best thought of as lending an air of pseudovalidity to the report.

Sometimes an "obvious" test response is not so obvious as it seems. Those who do research with personality inventories, for example, know that the subject's response cannot be taken at face value, that only through systematic investigation does one learn how to make the proper interpretation. Another illustration of this principle stems from an investigation carried out by the writer.[4] The matter studied was the meaning that might be ascribed to a particular response to an item which appears on several of the Wechsler intelligence scales. The examiner asks the patient what he would do if while seated in the movies he were the first person to discover a fire. It seemed clear enough that if the patient answered that he would yell "fire" he is an unthinking, impulsive sort of person. In the study cited, however, subjects were carefully rated in terms of their behavioral control and their answers to this particular item were tabulated. It could not be demonstrated through statistical analysis that a test response suggesting impulsiveness was related to actual impulsive behavior.

The psychologist's report, for the most part, is not made up of raw facts. The report is essentially a series of inferences which the psychologist presents with varying degrees of confidence. The basic facts which are obtained in the psychological examination of a patient consist of hundreds of bits of data—the patient's responses to all test items and tasks, including graphic productions, his speech and other clinical behavior while being examined, particularly as these relate to his responses to test stimuli and to the examiner as a stimulus, scores which are derived (e.g., the profile of the Minnesota Multiphasic Personality Inventory), various percentages, ratios, and other quantitative schemes. To a large extent the psychologist does not record in words his derived facts but makes interpretations (or judgments) directly from the protocol. A full account of the facts would require many pages yielding a document both unwieldy and impractical as a contribution to the reaching of clinical decisions. What the psychologist has to do, then, is to interpret his data in the context of all of his information, summing up the effect of similar findings and comparing data which relate to different levels or nuances of behavior. From these inferences, he selects and organizes in readable form information which clarifies

the patient's personality and has reference to the clinical problem which prompted the psychiatrist to make a referral. He often finds it appropriate to mention alternative clinical hypotheses or different ways of looking at the case.

Some Personal and Social Considerations

The psychological consultation must be viewed not only in terms of its technical considerations but also against the background of the total social context. Where psychiatrist and psychologist work closely together, they get to know the viewpoints and requirements of each other. The psychiatric resident, for example, often wishes to learn from the psychologist about his procedures and the psychological report may quite properly have a didactic slant. The psychiatrist who does not like long-winded reports ought not continually be subjected to erudite tomes. If a psychiatrist has a psychoanalytic orientation, it is appropriate that the report include analytic jargon, but to a psychiatrist not so oriented such a report may read like so much gibberish. It is quite true that many persons may ultimately read a psychological report, but the basic responsibility is to the "primary reader"—the referring psychiatrist.

The importance of the professional relationship of the psychiatrist and the psychologist cannot be overestimated as its effects the contribution of the latter to the case study. An impersonal referral and an impersonal clinical report alone cannot be as effective as when they are supplemented by a brief discussion of the case before testing is begun and after the report has been written. Because of the complexity of human personality, all potentially important factors which require further exploration cannot possibly be anticipated. A written report often cannot fully obviate the need for a discussion of a case—between psychiatrist and psychologist or in a team conference—in deepening the understanding had of the patient.

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A Clinical Experiment with Gamma Globulins in Mental Illness

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In the past decade psychiatric literature has had an increasing number of articles concerning various known hallucinogenic agents. These substances, which induce a "psychotic-like" picture, have led to many speculations concerning the etiology of mental illness. The preparation in the biochemical laboratories of the Noyes Institute[1] of antibodies against hallucinogenic drugs has raised the question of the existence of a protective antibody against hallucinogens in normal individuals. The possibility exists that all individuals, normal and schizophrenic, might synthesize hallucinogenic substances, but that the normal differs from the schizophrenic in having a protective mechanism against their activity. Such a protective mechanism could be a protective gamma globulin protein.

A search of the literature did not reveal that gamma globulin had ever been administered in massive doses over an extended period of time to mentally ill persons. To test the effect of the gamma globulin frac-

tion of human sera the following protocol was instituted and carried out: Chronic schizophrenic patients (10 male and 10 female) with primary and secondary symptomatology of the illness[2] were selected for the study. Age of subjects ranged from 21 to 62 years, with a median age of 38 years. Duration of hospitalization was from 1 to 21 years, with a mean duration of hospitalization of 6 years. Previous to the study a psychiatrist evaluated each patient clinically, utilizing the standard mental status examination form, and the Malamud Psychiatric Rating Scale.[3] In addition, each patient was screened by psychologists in the following areas of mentation: attention span employing the Digit Span Test of Wechsler,[4] mental age function by the use of human figure drawings, as described by Goodenough,[5] and work efficiency, persistence, accuracy, and dependability using the Kraus and Cook Test.[6]

The two groups of patients were then divided into five patients each, and for the ensuing four weeks, five male and five female patients each received intramuscularly 25 milliliters of gamma globulin weekly (5 ml. daily Monday through Friday). The other five male and five female patients each received intramuscularly 25 milliliters of normal saline weekly in the same manner. In this way, a control group was established for statistical comparison at the conclusion of the study. This was carried out "blindly" without patient or personnel knowing who was receiving which injection.

During the four-week period, each patient on gamma globulin injections received a total of 16.5 grams of the substance. At the end of the four week period all interviews and psychological testings were repeated and then compared statistically with the baseline tests.

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Results

Statistical analysis of all data before and after the experiment showed no significant psychiatric or psychological difference. Subjectively, 18 of the 20 patients reported feeling "better" while receiving the injections, either of the gamma globulin or the saline.

Comment

Although there were no psychiatric changes attributed to the injections of gamma globulin fraction, this clinical experiment does not exclude the possibility that a protective substance is present in normal gamma globulin.

That symptoms of chronic schizophrenia were not reversed by treatment of patients over a limited period of time with a large quantity of the normal gamma globulin fraction does no more than suggest that therapeutic conditions have not been realized. The basic hypothesis of an hallucinogenic substance of endogenous synthesis is unaffected by these results.

The patients' subjective evaluation of "feeling better" is another example of the "placebo" effect so frequently observed in psychiatric experiments.

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Isocarboxazid in the Institutionalized Mentally Retarded

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While the value of the amine oxidase inhibitors in depressive states has been well established over the past two or three years,[1-5] there have been no systematic studies reported of their effect in the institutionalized mentally retarded.

Perhaps the main reason for this is the prevalence among these patients of physical symptoms varying from mild hypertonia to grand mal epileptic seizures. Since the amine oxidase inhibitors seem to have an energizing or in some cases an over-energizing effect, the usual advice has been not to use them at all or only with great caution in these cases because of the possibility of aggravating the symptoms.[6,7] However, one benefit from the drugs which has suggested a trial was the definite tendency of these drugs to stimulate appetite with resultant weight gain.

The problems of lack of appetite and weight loss are serious in patients of this type. It is a common institutional practice to combine tranquilizing agents with multivitamin preparations, and where necessary to resort to liver injections, interval feeding and even forced feeding. Obviously a single medication which would eliminate or curtail the need for such a regimen would be highly desirable.

In addition, because of the retardation, there must be a training program oriented towards the development of greater alertness, better contact with environment, and a clearer sensorium of the patients. Here we reasoned that not the tranquilizers but psychic energizers, e.g., the amine oxidase inhibitors, might be of considerable value. In other words, would it be possible to advance, and not merely control, some of these retarded patients?

In trying isocarboxazid we realized that we were taking a calculated risk: the possible intensification of agitation often attributed to this class of drugs had to be balanced against their known appetite-stimulating and weight-gain effects and the hoped for amelioration of lethargy, lessening of withdrawal from reality and clouding of consciousness which was evident in most of these patients. The potential benefits certainly seemed to justify the trial.

Prior to the present study, we had used all available chemotherapeutic agents at one time or another, including the amine oxidase inhibitor, iproniazid (Marsilid — Roche). Some improvement was noted with the latter, but we were somewhat chary of it because of possible toxic effects. When its analog, isocarboxazid, was reported to have a better therapeutic ratio,[8,9] and no apparent liver toxicity,[10-12] it was decided to give the new drug a long-term trial in the recommended dosages.

Method and Material

The series consisted of 116 patients, 60 males and 56 females, aged 5 to 54. All were retarded sufficiently to be in a special training home. Some had such complicating factors as spastic paralysis, difficult behavior, mutism, schizophrenia, microcephaly, mongolism, epilepsy, etc. All were underweight, feeding problems, and generally apathetic toward their environment. Obviously most of the illnesses were lifelong, but for purposes of record their durations were entered as "more than six months."

Isocarboxazid was administered for from five to seven months, and both initial and maintenance doses varied from 10 to 30 mg. daily, depending upon our estimate of individual requirement. In no case did the medication have to be discontinued although in some instances it was considered necessary to continue tranquilizers as adjuvant therapy.

Included in the series were 50 patients—to be reported on in detail elsewhere—who were known epileptics.

All patients were observed constantly for

From Sunland Training Center, Orlando, Fla.

Marplan and Marsilid are tradenames of Hoffmann-LaRoche, Inc., Nutley, N. J.

improvement in alertness, contact with environment, appetite and behavior. Blood counts, urinalyses and liver function tests were done at the start and periodically during the trial. Weight was recorded weekly.

Results

By comparison with previous medication, the influence of isocarboxazid in one or more of the criteria (Table I) was noticeable and favorable in all 116 patients. Observers among the personnel described its effect in various individuals as "effective," "satisfactory," "superior" and "excellent."

Especially gratifying in these patients, under the arduous conditions of institutional care, was the favorable appetite response noted in all. In addition, 82, or 70 per cent, gained from 1 to 18 pounds during the course of the study; 14 patients remained the same and 20 lost weight (Table I).

TABLE I

Criteria			
Appetite	116	—	—
Weight Gain	82	14	20
Alertness and Sociability	116	—	—
Agitation and Convulsive Behavior	81	30	5

No side effects were noted in any of the patients and all laboratory tests were within normal limits at the conclusion of the medication period. There was also no observable increase (except for more frequent seizures in five epileptics) in agitation, tension, or hypertonic reactions such as rigidity, spasms, compulsive rocking or other manifestations of excessive irritability. The known "pick-up" effect of the drug was evidenced rather by such positive results as greater interest in environment and increased sociability.

Discussion

We shall make no attempt to evolve a theory of action or explain in any detail the reasons for the results obtained since the exact manner by which amine oxidase inhibitors, in this case isocarboxazid, produce clinical effects has yet to be established.[13] Nevertheless, certain of the data warrant comment.

One "side effect" that is sometimes considered to be adverse—increased appetite with weight gain—must be looked upon as beneficial in the type of patient here investigated, and hence a "quality" rather than a drawback of the drug. In addition, this property contributes to total patient and institutional management by partially or completely eliminating feeding problems.

The second interesting finding is the almost complete absence of aggravation of hypertonia in these patients in spite of the use of a type of drug that has been found to increase agitation and excitement in some individuals. Our results indicate that the basis for the prevalent reluctance to employ these drugs because of this potential effect is in great measure unfounded.

Finally, the absence of all side effects is noteworthy. As a matter of fact, it is tempting to speculate that—actual toxicity excepted—a significant number of the "side effects" regularly reported in clinical studies of drugs may be more subjective than objective, perhaps arising from the imagination or expectation of the patients. This suggestion is prompted by the fact that the primary problems of our patients were sufficiently serious for them to ignore (with no laboratory or clinical adverse consequences) signs and symptoms that in other individuals would cause worry and apprehension.

Summary

Isocarboxazid, an amine oxidase inhibitor, was employed in dosages of 10 to 30 mg. daily, over a five to seven month period, in 116 patients at a home for the mentally retarded.

In all patients there was an increase in appetite, with weight gain in 82.

The patients exhibited greater alertness, responsiveness, sociability and clarity of sensorium, and with five exceptions who experienced an increase in grand mal seizures, no exaggeration of tension or agitation.

No side effects from the medication were reported or observed.

A necessary conclusion from our results is that the value of isocarboxazid (and per-

haps certain other amine oxidase inhibitors) in this type of patient and institution has been neglected for reasons not apparent from our study.

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Postgraduate Training in Psychiatry for General Practitioners

C. J. RUILMAN, M.D.

Few topics have been discussed over so many years and with so many words only to yield so few positive conclusions about objectives, goals, and techniques as has this one. So many of us have struggled with the problem of meaningful communication of knowledge to our nonpsychiatric medical colleagues for fifteen, twenty years or more. Yet when we compare content and the approach of postgraduate training courses in psychiatry to postgraduate courses in other medical specialties, the very lack of standardization would suggest a greater difference of opinion with respect to postgraduate training in psychiatry than appears to be present in postgraduate training in dermatology, gastroenterology or chest surgery. There is, of course, nothing unhealthy in differences of opinion. Elements recently added to the general picture make it seem worthwhile to pause occasionally to reflect upon the needs as well as the techniques involved in providing suitable learning experiences in psychiatry for physicians in general practice or in other medical specialties.

Among the new elements most noticeable is the significant sums made available by the federal government to provide for postgraduate psychiatric training for men in general practice through lecture series, seminars, and perhaps other means not yet determined, and also for providing direct stipends to men from general practice who wish to enter psychiatry. Our group will attempt at a meeting in Atlanta to set up on a more operable basis one or more postgraduate learning experiences for general practitioners which can be reasonably satisfactory to all concerned. It is anticipated that an actual postgraduate training course perhaps on a

Read at the Annual Meeting of the Southern Psychiatric Association October 4, 1959.

demonstration basis, may ensue. As a preliminary to the Atlanta conference, many of the states in the southeastern portion of the country have held state-level meetings to determine level of interest in such arrangements and to formulate local opinion. As far as I can determine, this effort rests on the broadest base so far utilized in an effort to construct a pattern of postgraduate teaching of a meaningful nature.

Other new elements also appear to have been added to the picture in the past two or three years. One item which can scarcely escape attention is that the shortage of people trained in psychiatric specialties appears to have encouraged all sorts of nonmedical people, ranging from clergymen to school teachers, to offer to the medical profession, usually for a fee, great chunks of information about psychiatry. All of us have no doubt been circularized with literature offering to teach us all about hypnosis in two or three easy lessons. For less than $250.00 you can buy a special hypnosis machine guaranteed to hypnotize anything or anybody at the flick of a switch. The American Medical Association has found it necessary to activate a committee on medical hypnosis because of the widespread interest which has grown up.

During this year, 56 organized courses of training in postgraduate psychiatry are being offered by various medical schools and institutes throughout the country; 27 are announced as designed to meet the needs of the man in general practice. Most of these are offered in the form of seminars and lecture series, and yet when the faculty members of the various departments of psychiatry discuss such courses, there appears to be general agreement that lecturing and similar academic kinds of procedures are the ways they deem least likely to be successful. It is difficult to avoid feeling that many times it is necessary to make the choice between doing nothing at all and doing something recognized to fall far short of a desired goal. Not uncommonly the decision seems to be forced by the fact that the very men who wish the training experience find it impossible to free a sufficient block of time from the pressure of a busy practice, but are nonetheless responding as best they can to a natural desire to be able to provide better medical care for their patients.

No segment of psychiatric endeavor stands to gain as much from a wide-spread knowledge and utilization of psychiatric principles throughout the entire medical profession as do the state mental hospital systems. The extent of the problem of follow-up care after discharge from state mental hospitals might serve as an example of the size of the job. If in the state of Texas the psychiatrists in practice were to attempt a minimum aftercare arrangement for patients discharged from state mental hospitals in Texas, each psychiatrist in the state who has a full-time private practice would be seeing 202 additional patients per month. Interestingly enough, even if the state were to pay for this service on a usual fee basis, the cost would not be prohibitive. The real difficulties are those of business and geographical distributions. The geographical distribution of men in general practice would serve the need much better.

Concerted attempts have been made in several states to enlist the aid of the general practitioner but response has been indifferent. It is not uncommon to find that the physician who referred the patient to the state mental hospital in the beginning was reluctant to do follow-up care after discharge. Meanwhile state mental hospitals in most of the states continue to have a readmission rate of about 30% of all discharges, which is probably twice as high as it should be.

Advantages to psychiatry other than the state mental hospital systems appear to be generally conceded. Even the busiest psychiatrists in private practice and in academic settings express willingness to give of their time and energy to this end. The question is not one apparently of desirability but rather one of technique and method.

It is difficult to see much change in the kinds of training opportunities offered to general practitioners over the past 20 years except that perhaps the position of psychiatry is at the present time somewhat more

vulnerable than it has been in the past. The advent of new chemicals and the recent hypnosis fad pose some problems which will have to be solved by psychiatry since no other medical group can or would solve them. Certainly it is the responsibility of the teacher rather than the student to differentiate between what is "practical" and that which is "immediately exploitable." Psychotropic drugs and hypnosis can easily fall into the latter category. This group needs no reminder of the fallacy of a purely symptomatic approach. It may be that the very effective packaging now being used to surround these technical aids with an aura of safety could force psychiatry to adopt a more positive policy.

It appears that the broad interest on the part of nonpsychiatric physicians can be divided into groups according to motivation. My own recent inquiries certainly indicate these three groups to exist: 1) to learn something about psychiatry, 2) to learn dramatic new tricks of the trade, 3) to keep current with requirements imposed by membership in certain national medical organizations. At the risk of seeming critical, I find the need to worry out loud a little. That psychiatry in years past has had its problems of acceptance is not disputable. That the past ten years has seen a remarkable turn for the better is also factual and I think that the risk of losing these gains is currently at a high point.

Only isolated attempts have come to light so far to meet the needs of the really crucial man, namely, the general practitioner in the smaller community, although interest in this problem is certainly ample. The idea of a sort of preceptorship arrangement is certainly not new in medicine. Its use in Nebraska and perhaps in other areas has been rated as highly satisfactory. To do so would mean a shift of the main responsibility of teaching from the academic area to the psychiatrist in general practice. It would also mean a shift from an attempt to provide a thin and brief learning experience to a large number of general practitioners in favor of a much more comprehensive level of experience and training to a smaller number of general practitioners and these would, of course, largely be living and working in the smaller communities. The necessary ingredients are first, an interest in psychiatrists in practice in the area; and second, available psychiatric beds in the local general hospitals in the area.

Any prospect of the physician in general practice being able to provide complete care and treatment for any significant number of the seriously psychiatrically disabled patients in his area remains remote. The nature of general practice is such that the physician is often unable to devote the necessary time to each individual psychiatric patient. The chief hope of progress now, as previously, continues to be the better understanding and probably the earlier psychiatric referral of patients and a major share of the convalescent care of psychiatric patients who have been treated by specialists at a distance away from the patient's home community.

Austin, Texas.

Expanding Goals of Short-Term Group Psychotherapy

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The purpose of this paper is to describe the results of an experiment with short-term group psychotherapy on the open psychiatric ward of a large G. M. and S. hospital.

Corsini[1] described the wide variety of group methods and included advantages in the use of co-therapists. Dreikurs and Corsini,[2] in their comprehensive survey of group therapy, note the strong emotional impact and social reality testing of groups. They also stress that all groups are essentially democratic—a climate which dissolves isolation and allows patients to be stimulating and helpful to each other. Klapman,[3] and also Stein, et al.,[4] discuss the favorable effect of group therapy on ward and hospital atmosphere.

The staff psychiatrist, male, and the psychiatric social worker, female, initiated the group as co-therapists and continued as such for the eight months of group meetings. The group members were selected by the therapists from patients transferred from the Admissions' Ward. The size of the group ranged from three to eight patients, with an average of six. A total of 43 patients moved through the group with an average stay of ten sessions. Meetings were held twice a week, 50 minutes each, in a room on the open ward. Chairs were arranged casually in a circle with the therapists seated across the room from each other. Each session was discussed immediately afterwards at which time notes were made.

The group evolved through three stages, each lasting approximately three months. It should be kept in mind that there was a steady turnover of patients in the group throughout these periods. During the first period, the level of therapy was superficial, with the usual generalities, intellectualization and inhibition of feeling. The level of the second period was more uneven. There were intervals when more individual problems and feelings were expressed, along with greater patient interaction. But, the overall level remained quite superficial, with little insight. The last period found the group showing a surprising capacity to work at greater depths on key problems, to express "unacceptable" feelings, and particularly to relate to each other.

What follows is an effort to explore the major reasons for the group movement, as well as certain other observations about therapy in this particular setting. First and foremost were changes in the therapists. We feel that the importance of close communication and rapport between co-therapists has not been stressed adequately in the past. Ideally, personalities should be complimentary rather than competitive. From our observation, it would appear that this can usually be accomplished most readily with male and female co-therapists. As our therapeutic relationship became more effective, there gradually developed more skill in working with the groups. This was apparent in the second and especially the third period.

Selection of patients also affected the group. As time went on, we became more adept at screening, so that patients whom we thought would contribute to, and gain from the group, were included; and those who would be disrupting and too resistive were not chosen. Leopold[5] comments on the relevance of patients' psychodynamics in selection and the impact this has on the group. Such selection definitely facilitated group movement and we felt was necessary for the success of short-term therapy.

A third reason for the increased group capacity was the effect of all the group members living closely together. Familiarity with each other quickened the pace and sharpened the focus of the group. Problems were carried from the group into "bull sessions," often being returned in a way that deepened the level of therapy. Laffal and Sarason,[6] observed that close living causes ward events and problems to be brought to the group. Observation by the therapists

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of group members' behavior on the ward served increasingly to enhance the therapist's effectiveness. Hill and Armitage,[7] also noted many advantages in a therapist having his own patients in a group. As time went on, group therapy became accepted as a serious and helpful part of treatment.

We will make some additional comments about other factors noted to have an effect on the group. A family setting was provided by the team of physician-father and social worker-mother. It happened that this followed naturally from their individual traits. That is, during the group sessions, the physician was more directive and interpretive, while the social worker was more passive and intuitive. Klapman and Meyer,[8] in their paper, note that the social worker was more passive and was accepted as the mother figure. The roles overlapped and at times were reversed. For example, the social worker became more active during a session when the physician was feeling ill, and also on occasions when wives and marital problems were being discussed. This setting was effective in evoking material and feelings from the disturbed family constellations of many of the patients. Cantor[9] considered therapists as catalysts and stressed the importance of their attitude toward patients in the group. The setting also provided a continuing example of a more comfortable and mature male-female relationship. Others, particularly Kotkov,[10] also noted that patients can carry away from group therapy improved attitudes toward wives, sex, male authority figures (such as bosses), and the like.

The effect of patients on each other was potent—both in the group and on the ward. The extent to which they could criticize and expose each others' shortcomings was striking; as was their capacity for giving support when needed. For example, one patient had discussed, in the group, his hostile conduct towards his wife, among which were extramarital affairs. He appeared to be repentant and making efforts to control his acting out. However others in the group, noted some time later, that his behavior with certain women around the hospital contradicted this. They pointed out how he was trying to gloss over his actions, not only with his wife and his therapist, but also with himself. On numerous occasions patients would support an anxious, insecure or withdrawn member by including him in their activities, and by sympathetic listening and reassurance. This strengthened group identification and cohesiveness. During the more intensive third period the group was able to maintain this cohesiveness despite the regular turnover of patients. Interpretation often had a more telling effect when originating from a patient rather than a therapist. However, the therapists did develop increasing skill in eliciting and allowing patient interactions.

As a conclusion, it can be stated that we found many advantages with group therapy in an intimate ward setting. Short-term groups can achieve surprising effects, especially with proper selection of patients and adequate therapeutic leadership. This can be enhanced by the "family setting" atmosphere which often follows from the use of male-female co-therapists. We learned that the goals of short-term group therapy need not be severely limited; especially where more optimal conditions can be obtained.

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Use of Succinylcholine Chloride in Electroconvulsive Therapy

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This paper reports the use of a special technique of administering electroconvulsive therapy using succinylcholine chloride (SCC). Treatments were given to 1,107 patients at the Los Angeles Neurological Institute and Edgemont Hospital in Los Angeles. The cases reported include those treated by the author as well as patients under the care of three other staff members at these hospitals.

The paper seeks to demonstrate that electroconvulsive therapy, when administered by the method described below, can be used with a high degree of safety. Because of this improved safety factor, its use can be extended to patients whose physical condition might otherwise contraindicate this form of treatment.

Method of Administering Treatment

Treatment is given on a surgical Gatch bed, with the patient's dorsal spine resting on the slightly elevated part of the bed to produce mild but not uncomfortable hyperextension of the spine. Although two assistants were usually necessary before SCC was available as a muscle relaxant, one assistant is now able to provide the assistance required. Only minimum manual restraint of the shoulders and hips is applied. Incidentally, we do not usually use an anesthetist to administer the premedication.

Premedication consists of thiopental and atropine given intravenously from the same syringe. The average dosage of thiopental varies from 2 to 3¾ grains and of atropine from 1/50 to 1/100 grain. Only occasionally are larger doses necessary. In general, we advocate the use of a thiobarbiturate (thiopental or thiamylal) with each treatment. This premedication decreases the intensity of the circulatory reaction, reduces pretreatment apprehension and post-shock excitement. Atropine is valuable in controlling excessive oral secretions and post-treatment vaso-vagal irregularities.

However, we forego the use of thiobarbiturates with patients whose psychomotor activity is appreciably slowed down or who respond with excessively prolonged dullness and sleepiness to the thiobarbiturates and who show no appreciable apprehension about receiving treatment. Similarly, we do not use atropine when the patient manifests a sensitivity or where there is specific contraindication.

Sufficient dosage of thiopental and atropine is given in about two minutes to bring the patient to the threshold of sleep. At that time the electrodes are applied and the patient prepared to receive the current. The syringe is then changed and the patient is given SCC as quickly as it is possible to inject it. The amount varies from 15 to 40 mg., depending on the patient's general physical vigor and muscularity, and the amount is changed to optimal dosage in subsequent treatments. We have found that the optimal dosage is not necessarily proportional to the size or weight of the patient. On rare occasions we find that a dosage in excess of 40 mg. is required, when we want to eliminate any muscular movement whatsoever, as in the case of a patient with a fracture or with advanced osteoporosis. Even in such instances the amount of SCC used is well below the danger level, and is considerably less than is used in surgery.

We find it an interesting clinical observation that when SCC and atropine are used without a thiobarbiturate, the same amount of SCC produces a greater degree of muscle relaxation.

The optimal time for delivering the convulsive electrical impulse is between 45 and 60 seconds after the injection of the SCC. Patients vary in the length of time required to achieve maximum muscular relaxation,

and this, too, should be determinated clinically.

We use a glissando technique in inducing the convulsion which permits a gradual increase of current with a resulting smoother induction of muscular contraction, rather than a jarring movement that follows sudden application of full current with closure of the switch. The SCC provides ample protection against excessive muscular contraction, but if the initial dosage of SCC has been less than adequate, the glissando technique reinforces this protection.

The current is first brought to a peak level of 400 ma. and then dropped to 100 to 150 ma. Although it is possible to provide a convulsive seizure at a point below 400 ma., we have found that if the current is brought to this maximal level, there is a shorter period of apnea. Furthermore, maintenance of the current at between 100 to 150 ma. during the remainder of the convulsive seizure cuts down the excursion of gross movements in the clonic phase of the seizure, in the event that the dosage of SCC has not brought about maximal relaxation.

The E and J Micro-daptor Respirator is used routinely for all patients undergoing electroconvulsive therapy, and functions as a resuscitator, an inhalator and an aspirator. It is of greatest value at the end of the seizure when apnea and muscle relaxation are maximal. As a resuscitator, it is especially valuable in SCC treated patients, since it supplies oxygen under positive pressure until the lungs are inflated to a pressure of 14 mm. of mercury. The apparatus then trips to allow a negative pressure of 9 mm. of mercury.

The apparatus works well as long as a good airway is maintained and the mask is held tightly to the face to eliminate leaks. A Guedel airway is used to prevent the tongue and secretions from becoming obstacles to free respiratory exchange.

The respirator is also used as an inhalator after spontaneous respiration returns if the patient needs more oxygen. A continuous flow of oxygen is provided with the turn of a valve. Until the resumption of spontaneous respiration the machine operates cyclically and automatically at positive and negative pressures. The aspirator is of special value when electronarcosis is used.

Clinical Data

Using the technique described, a total of 8,856 electroconvulsive treatments have been given to 1,107 patients. Among them were many with physical complications and special conditions which might have created hazards had treatment been administered without SCC. The patient group was composed as follows:

Age Distribution	*Male*	*Female*	*Total*
16-20	26	41	67
21-45	97	234	331
46-65	112	374	486
66-84	31	192	223
Total	266	841	1,107

The physical findings in these patients and their tolerance for electroconvulsive therapy, within the context of those physical findings, are summarized below.

1. *Strong musculature in especially tall persons.* This was a reasonably common finding in the age group from 16 to 45. The danger of fractures of the long bones in tall persons amply covered with strong musculature would appear to be great since the force at a fulcrum point is directly proportional to the length of the lever arm. Statistics demonstrate that when unmodified therapeutic convulsions are given, fractures in long bones as well as compression fractures in the vertebrae is more frequent in tall, well-muscled persons than in short individuals with flabby musculature.

In our series, there were no fractures of any kind in the age group 16-45. In age group 46-65, three patients (one man and two women) had mild compression fractures of the lower dorsal spine. These fractures were only mildly symptomatic. Treatment could be continued in each case to bring about optimal therapeutic benefits by increasing the dose of SCC to a level where muscle movement was minimal to none at all.

In only a few cases were there instances of mild transient muscle strain, most commonly in the muscles of the jaws.

2. *Pregnancy.* There were 28 pregnant patients, varying in age from 19 to 42. The duration of pregnancy was from the first to the sixth month but all of these patients were treated uneventfully. There were no spontaneous abortions or miscarriages, and no vaginal bleeding and the babies were normal at birth.

3. *Cardiovascular complication.*

(a) Hypertensive cardiovascular disease and essential hypertension.

Age Distribution	*Male*	*Female*
21-45	8	26
46-65	18	37
66-84	7	27

None of the patients showed any evidence of failure. Treatment is not undertaken with patients in failure until they are appropriately compensated.

Blood pressure readings varied considerably among the patients. The highest recorded blood pressure was 276/130.

Hypertension is not necessarily a contraindication for electroconvulsive therapy. On the contrary, it may be a definite factor indicative of need of such therapy, since the agitation and restlessness that often accompany emotional disturbances serve to raise the blood pressure.

The one death which occurred among the entire group of 1,107 patients was a woman aged 74 with a long history of hypertensive cardiovascular disease. She was treated because of a severe agitated depression which obviously had been creating added stress for several weeks prior to the use of electrotherapy. She expired about two hours after the second treatment. The immediate post-treatment condition was in no way remarkable. About two hours after treatment, while the patient was still in bed in the recovery room but already awake and responsive, her pulse became markedly irregular, weak and thready, and there was a sudden onset of circulatory collapse and cyanosis. Despite supportive measures, she expired within about ten minutes. It was felt that death was due to an acute coronary occlusion, but in no way attributable to the SCC.

(b) Coronary disease.

Electrocardiograms were not routinely done on all patients. However, when a patient had a specific history of angina pectoris or of a coronary occlusion, an EKG was done.

Age Distribution	Male	Female	*Comments*
21–45	9	0	Two patients gave EKG evidence of healed infarctions. One, age 43, had had an occlusion 5 months prior to treatment; the other, age 45, had had an occlusion 2 years prior. Remainder of patients showed EKG evidence of coronary insufficiency, mild to moderate in degree, with history of angina pectoris.
46–65	16	8	Four male patients had history and EKG evidence of old occlusions with persistent anginal syndrome. Remainder gave history of varying degrees of severity of angina pectoris and EKG evidence of coronary insufficiency of from mild to moderate degree.
66–84	7	17	Two male patients had history and EKG evidence of old occlusions. Remainder gave history of varying degrees of severity of angina pectoris and EKG evidence of coronary insufficiency of from mild to moderate degree.

All patients did very well throughout the period of treatment. There was no indication that the treatments in any way affected adversely their cardiac conditions. In fact in some instances, as the patient emerged from his state of depression, he suffered less from his coronary disease. It might be pointed out that patients with recent coronary occlusions have never been considered good candidates for electroconvulsive therapy. The patient reported above, whose occlusion had occurred five months prior to treatment, would in all likelihood not have received treatment had not the modifying effects of SCC been available. With the reduction of the strain on the myocardium through SCC, he tolerated the treatment excellently.

4. *Bone conditions.*

Age Distribution	Male	Female	Comments
46–65	2	6	Three women in this group had fractured hips which had been nailed and were in cast. One man had fractured hip, nailed and in cast. One man had Colle's fracture in cast. One woman had fracture of ankle in cast. Two women had moderately severe joint deformities resulting from rheumatoid arthritis. No evidence of acutely inflamed joints.
66–84	18	23	One woman had congenital hip dislocation. A substantial number of patients had mild to moderately severe degrees of generalized osteoporosis.

In the age group 46-84 evidence both historical and clinical, of osteoarthritis was common although not specifically tabulated. Patients with arthritis showed appreciable improvement after treatment; as their emotional condition improved, muscle tension decreased and the discomforts of arthritis became less acute. Patients with fractures were given enough SCC to eliminate almost totally muscle movement and no further bone damage resulted with the electroconvulsive treatments.

5. *Neurologic problems.*

Age Distribution	Male	Female	Comments
46–84	8	17	Four men, 12 women with hemiplegias, in each case acute episode more than one year prior to treatment. Four men, five women with Parkinsonism, arteriosclerotic type, mild to moderate.

In no instance was there any deterioration of a neurological condition as a consequence of electroconvulsive therapy. The patients with parkinsonism generally showed a decrease of muscle rigidity as emotional tension lessened.

Discussion

Over and above the specific findings which emerged from our experiences with SCC, our general observations confirm advantages which have been cited by other studies of this muscle relaxant. Although muscular activity is diminished with SCC, cerebral discharge is increased and there is reason to surmise that the therapeutic effects may be increased when the patient has been premedicated with this drug. In any event modified convulsions are just as therapeutic as unmodified treatment. As the use of SCC produces lower lactic blood levels, there is less after-treatment fatigue, resulting in less pretreatment apprehension for subsequent treatments.

It should be pointed out that despite the advantages of SCC, there are several situations in which it is clearly contraindicated. It should not be used for patients in whom there is definite evidence of impairment of liver function. Neither SCC nor atropine should be used as premedication for patients with glaucoma.

In view of the extended use now possible for electroconvulsive therapy when administered with SCC, we think it pertinent to re-examine the place of electroconvulsive therapy in the psychiatric armamentarium.

The mode of action of electroconvulsive therapy is a moot question and the situations in which it is indicated may be controversial. However, at the practical level it still is an extremely useful method of therapy.

In some circles it is felt that the increasing availability of new "miracle" drugs, tranquilizers and psychostimulants, may ultimately eliminate the need for electroconvulsive therapy. While we welcome these new drugs we feel that they do have limitations which must be recognized. While they facilitate doctor-patient relationship they are not a substitute for it. They are effective in controlling symptoms but they have no curative powers. The drugs may decrease the number of electroconvulsive treatments required in many cases or reduce the frequency of treatment. However, there is a great distance yet to be traveled before

electrotherapy can be totally replaced by chemotherapy.

Our treatments were given in a hospital setting. This circumstance tends to make us less optimistic about the over-all efficacy of drugs than those psychiatrists whose experience is confined to office practice. By the time the psychiatric patient is hospitalized, he has probably already received ample doses of various drugs to no avail. Among such patients there would accordingly be more frequent indication for the use of electroconvulsive therapy.

This does not mean that electroconvulsive therapy should be used only when all other methods have failed. Quite the contrary, as there are many situations in which it is an undisputed first choice. However, in actual practice, it is too frequently used only as a last resort, after other alternatives have been unsuccessfully explored.

Electroconvulsive therapy has demonstrated maximum usefulness in treating depressive reactions, especially those of an endogenous nature and involutional psychoses. There is some difference of opinion about its applicability to schizophrenia, but those who have had extensive direct experience with schizophrenia feel that this form of therapy has a definite place in the therapeutic regimen. For the conditions mentioned electroconvulsive therapy is in many instances the only method of treatment which can effect a remission of symptoms. In other cases it appreciably accelerates the patient's recovery to the point where he is amenable to sustained psychotherapy. Our orientation is not toward the exclusive use of electroconvulsive therapy, but toward its combination with other treatments.

Since electroconvulsive therapy has, in our opinion, a continuing place in our armamentarium, we believe that it is incumbent upon us to refine and improve our techniques so that its adverse effects can be minimized and its range of usefulness extended.

Summary

On the basis of the experience reported here, we find that the use of SCC makes electroconvulsive therapy a suitable form of treatment for an increased range of patients.

The modification of the convulsions effected by SCC is sufficient to prevent skeletal damage and to reduce sharply the incidence of fracture. Indeed, patients with skeletal pathologies may safely be treated.

The reduced severity or elimination of the convulsions decreases the stress on the cardiovascular system and hence increases the suitability of the treatment for cardiac patients.

Although we did not check blood pressure and pulse on every patient before and after treatment, we did so frequently enough to observe that rise in arterial blood pressure is diminished, the heart rate is less disturbed, and pulse pressure remains almost normal. These reactions can be attributed to the use of thiopental as well as SCC.

SCC effectively reduces laryngospasms which in some cases are emotionally induced and in others are produced by the intravenous injections of thiopental. In our series, in which a combination of thiopental, atropine and SCC was used, there were no significant problems of laryngospasm. There was occasional mild stridor.

Conclusions

We conclude on the basis of 8,856 electroconvulsive treatments using SCC as a muscle relaxant that:

(1) SCC is an eminently safe medication for use in electroconvulsive therapy. We have found no specific sensitivity or untoward reaction to the drug itself.

(2) The use of SCC by the method described makes it possible to treat patients for whom electroconvulsive therapy is indicated at virtually no risk.

(3) It also makes it possible to extend this form of treatment to patients who because of age or physical complications have heretofore been considered unusual risks. Even for such patients the risk is now negligible.

A Clinical Evaluation of SCTZ

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and SIDNEY MERLIS, M.D.

Reports have come from the French literature[1-6] concerning the clinical effects of methyl-4-Beta chlorethyl-5-thiazole ethane disulfonate (Wy-1485). This compound, half of the thiamine molecule, has been used under the designation SCTZ. The reports have claimed marked tranquilizing action of this compound without toxic effects. Its use in manic states and as adjunct to anesthesia has been described.[5-6] It was felt that a further clinical trial was warranted.

Materials and Methods

Three parallel studies on two occasions were undertaken to determine the effectiveness of SCTZ in various neuropsychiatric disorders. A total of 107 patients were observed in this study.

1. A hospitalized group of 72 chronic patients in various diagnostic categories were studied for periods up to five months. SCTZ was supplied in .5 gram capsules and as material for intravenous injection, 20 mg. of the active substance per cc. Initially patients were begun on intravenous medication and gradually changed to oral administration. Dosage ranged to 2.0 grams daily in divided doses. Later, we used oral medication exclusively, generally beginning with 0.5 gram tablets of SCTZ three times daily. This was gradually increased to a maximum of two tablets four times daily. Four patients in this series received a total of five grams daily for a week.

2. A group of 16 out-patients consisting of ambulatory schizophrenics and neurotics with primary symptom patterns of anxiety, tension, phobic disturbances, insomnia, psychosomatic complaints and hyperactivity was studied. This group was treated only with oral therapy in dosages up to three grams per day in divided doses for a period of three weeks.

3. SCTZ was used intravenously on 31 occasions in dosages up to 2000 mg. in 19 disturbed patients when certain neurodiagnostic techniques were necessary. One patient was given SCTZ to induce the necessary cooperation for a pneumoencephalogram; another patient was given SCTZ in conjunction with 50 mg. of Demerol and 50 mg. of Phenergan prior to surgical removal of an intracranial abscess. Seventeen patients were given medication in dosages ranging from 800 to 2000 mg. for the purposes of gaining the cooperation their patient prior to electroencephalography.

Results

1. Of the 72 inpatients studied, 12 were noted to have significant alteration in their behavior pattern. There was a decrease in agitated and disturbed behavior and an improvement in cooperation with the ward routine as well as interpersonal relationships. Two additional patients became more active but were not basically improved. Two became more disturbed. One catatonic showed a return to nearly normal motor and social behavior for one to six hours after administration of intravenous SCTZ or through tube feeding. The change from her usual state of a waxy flexibility, negativism, drooling, unresposiveness and muteness occurred within minutes. This initial improvement was seen only during the first month of trial. The effectiveness of the medication diminished until the responses observed earlier could not be elicited even with elevation of the dose. Nineteen patients showed varying degrees of mild sedation during the trial but with little significant or lasting change from their pretrial behavior level.

Therapeutic interviews with patients after intravenous administration parallelled our experiences with parenteral Sodium Pentothal.

From the Clinical and Research Facilities of the Research Division, State Hospital, Central Islip, New York.

Supplies of the material studied were made available through the courtesy of the Wyeth Laboratories, Radnor, Pa.

2. Three of the 16 neurotic and schizophrenic out-patients studied during the test period of three weeks revealed a significant improvement. Some noted slight improvement in their sleep patterns but the side effects were of such intensity in most of the patients as to require a discontinuance of therapy. Most of the 16 patients reported easier onset of sleep.

3. The use of SCTZ appeared to offer greatest usefulness in that group of patients with whom medication was used in a single injection for producing a temporary cooperative state during the performance of neurodiagnostic procedures. Highly agitated disturbed patients became cooperative with intravenous medication in doses ranging from 800 to 2,000 mg. for periods up to two hours. Electroencephalography was performed with ease in cases which otherwise could not be examined. Brain wave patterns were those of normal light sleep; low voltage records, with 14-20 cycle activity predominating. It is of interest to note that while under the effects of medication these patients could be aroused and would respond to stimulation, either verbal, auditory or tactile. They would remain responsive until the stimulation was discontinued and then would return to sleep.

Discussion

Contrary to previous reports the use of SCTZ produced, in our experience, minimal beneficial behavioral or psychological effect. The medication was sedative in character but significant drawbacks in its use were remarked. Its physical properties are such that only dilute solutions can be used parenterally, necessitating for intravenous use a large volume of solution. Subcutaneous or intramuscular injections cannot be given because of the irritating nature of the material. Side effects were numerous and included severe nasal irritation with sneezing, nasal stuffiness and tearing. Pharyngeal irritation and severe coughing was also noted both in oral and parenteral uses. There were reports of hiccoughing, urticaria, headaches, increased anxiety and syncope. In addition, there was one patient who developed edema of the face and fluid retention after 11 days of medication; one patient showed ataxia after three weeks on medication; another patient showed hypertensive effects and agitation after 3½ weeks of medication; one patient was more regressed after five weeks. Akathisia and headache were seen in one patient after 1½ months on medication. One patient developed gastrointestinal complaints after seven weeks; another demonstrated a rise in blood pressure and restlessness after two months on medication. One patient after oral therapy had an episode of syncope after two months of treatment. There were two instances of cardio-vascular collapse and respiratory arrest after 100 cc (2.0 grams) intravenously. One patient developed a painless venous thrombosis after four injections.

The laboratory findings on chronic administration revealed no alteration from the normal. Serial electroencephalograms were not significantly altered. A psychological battery of tests showed evidence of sedation but no basic alteration in thinking patterns.

Summary

SCTZ, a thiazole derivative, was studied in two different series in 107 patients with various neuropsychiatric disorders. When used intravenously it was valuable in producing a sedative response which rendered agitated or frightened patients suitable for neurodiagnostic procedures. Its psychotherapeutic properties were minimal, transient and unpredictable. Its physical properties and its toxic effects rendered it difficult to use and limited its value.

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Regressive Shock Therapy

M. G. JACOBY, M.B., and ZELDA VAN HOUTEN, R.N.

Milligan (1946) noted regression in some cases when he gave intensive electroconvulsive therapy to psychoneurotics. Kennedy and Anchel (1948) followed this by giving intensive shock treatment to chronic schizophrenics with good effects and found that the more the patients were regressed the better the results.

This paper is concerned with the results of regressive shock therapy given to difficult female schizophrenics who had been hospitalized for at least one year prior to treatment. They were all on a maximum disturbed service of the 10,000 bed Central Islip State Hospital. Every patient had received symptomatic shock treatment and large doses of tranquilizers with little or no improvement and many had received insulin coma therapy.

Technique

The patients were continued on their tranquilizing drugs and given four electroshock treatments every day. Early in the treatment Pentobarbital was administered as premedication to allay fear but as the patient became more confused this was discontinued. Two patients, one rather elderly and the other with a recurring dislocation of the jaw were given intravenous succinylchloride to reduce the physical stress of the treatment. On the second day of the treatment most of the patients were confused and disoriented and by the 3rd or 4th day they answered to their maiden names but not their married names. Their memories were defective and they would state that they were seven or eight years old. By the end of the first week they had difficulty in their surroundings. By the 11th or 12th day they usually started soiling, had to be spoon-fed, did not respond to their names and could walk only with help. At this point treatment was discontinued.

During the first few days after cessation of treatment sphincter control and muscular coordination returned. They would ask about their surroundings, how they came to be in the hospital. They were told that they had had nervous breakdowns but not of the events that preceded their psychosis. They were given maximum supportive treatment.

Emphasis was placed on permissiveness and patients were handled so as to increase self-respect and expand their ego. They were encouraged to wear their best clothes and were taken to the beauty parlor for permanent waves while still in a post-treatment state of confusion. Personnel were not assigned to look after specific cases but it was found that a state of empathy would develop between an attendant and a particular patient and that this attendant would then take most of the responsibility for looking after her. As soon as possible after treatment the patients were transferred to a convalescent ward housing patients who were expected to go home in the near future. Once the patients were over their initial confusion they were permitted daily visitors, encouraged to make phone calls and every effort was made to rehabilitate and disinstitutionalize them.

If a patient appeared to be coming out of her regression too quickly she was given one

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electroconvulsive treatment every second day for a few days. One patient at the termination of treatment ran a high fever but showed no other physical signs of illness. She then went into extreme shock which did not respond to noradrenaline. She recovered when given cortisone. No patients had lasting ill effects though they looked physically ill and had complete memory loss at the end of treatment.

Results

Some patients on coming out of their regression did not return to their paranoid ways of thinking. Others showed a return of their delusions for a short time and then began to act more normally. Of the 21 cases 18 were paranoid, 1 was catatonic, 1 hebephrenic and 1 behavior disorder. The average duration of the paranoid cases was 5.1 years; the catatonic 7 years; the hebephrenic 9 years; the behavior disorder patient is a 15 year old orphan who had been hospitalized for 5 years.

Seven patients had been sent on convalescent care, another eight now enjoy freedom of the hospital grounds. Two show slight improvement; two show no improvement and two patients, one a hebephrenic and the other a paranoid could not be regressed although they each received four electric shock treatments daily for a month. No patients were made worse by the treatment. (See Table I.)

This form of treatment has been in use for the past 15 months and some of the patients included have been treated within the past four months. We expect the long-term results to be better. However, against this is the fact that when patients leave the hospital they return to the environment which precipitated their breakdown and therefore we may expect some to relapse.

TABLE I

	Home	Freedom of Hospital Grounds	Slight Improvement	No Improvement	Not Regressed	Totals
Catatonic		1				1
Hebephrenic					1	1
Paranoid	7	7	1	2	1	18
Behavior Disorder			1			1
Total	7	8	2	2	2	21

It is not suggested that regressive shock treatment is the cure for all chronic schizophrenics and certainly this form of treatment will not empty our mental hospitals. However, in certain selected cases it appears to be of considerable value.

Conclusion

Twenty-one chronic mental patients received regressive shock treatment. Of these seven have improved sufficiently to return home. A fair degree of improvement was seen in another 10 and only four could be considered as failures.

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Pilot Clinical Trial of S.9-888, a New Tranquilizer and Antidepressant

CHARLES Z. K. MITIS, M.D.

In the search for improvement in the pharmacotherapy of functional mental disorders, S. 9-888 (2-chloro-10 [3 (1-[3-hydroxypropyl]-4-piperazinyl) propyl] thiaxanthene dihydrochloride) has been developed. This compound's chemical structure is similar to phenothiazine, is closest to perphenazine (Trilafon), but like Tofranil it is not a phenothiazine derivative.

Method

The group studied consisted of 40 female patients admitted to an open section of the psychiatric division of the University of Texas Medical Branch Hospitals; 28 of the patients were first admissions; the remaining twelve were at least once previously treated in a hospital for a functional mental disorder. The diagnosis included 12 patients with schizophrenia (three paranoid, three schizo-affective, five chronic undifferentiated, one acute undifferentiated), eight psychotic depressions, eight neurotic depressions, seven anxiety reactions, two phobic reactions, two conversion reactions, one obsessive compulsive reaction, and one sociopathic personality.

After a basic evaluation of mental and physical state, the patients were placed on S. 9-888. The majority received initially 12.5 mg. four times daily and twelve started with 25 mg. four times a day. Every few days the dose was increased by an increment of 12.5 mg., until a therapeutic response was obtained. Those patients who showed a satisfactory response were used as their own controls, namely, the S. 9-888 was substituted by an equal number of similar-looking capsules of lactose. The average course of administration of S. 9-888 was 20 days, the longest 42 days, and the shortest, included in this series, was 10 days. During the active treatment, if necessary, the patients were allowed hypnotics at night and sporadically other medications for relief of symptoms, such as headache, etc. Observations as to changes in the clinical condition were carried on independently by two or three members of the medical personnel. Nurse's notes, also, were used in the final evaluation.

All patients were free from any serious physical abnormalities. During therapy urinalysis and a complete blood count were done twice a week and liver function tests once a week. Blood pressure and pulse rate were measured at least three times a day. The following liver function tests were used in this study: serum bilirubin, galactose tolerance test, urine urobilinogen, alkaline phosphatase, thymol turbidity and cephalin flocculation. Each patient had three liver function tests performed on each occasion: serum bilirubin and two others.

Results

The nature of the therapeutic response was similar to results obtained when derivatives of phenothiazine are used, especially those which have a piperazine ring in the side chain.

The calming effect of a daily dose of 200 mg. could be compared more or less to a daily dose of 16 mg. perphenazine. The stimulating or antidepressant effect, which is slight in perphenazine, appeared to be more pronounced and actually the best results were observed in patients with depressive symptomatology. Out of 16 patients with a diagnosis of depression, 11 showed satisfactory remission; five were slightly or temporarily improved, but required other therapy later. In other diagnostic categories a definite improvement was observed in seven cases of schizophrenia, five anxiety reactions, and one case of a conversion reaction, which, however, did have a depressive over-

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The compound S. 9-888 used in this study was supplied by Sahyun Laboratories, Santa Barbara, California.

lay. The remaining patients were not improved.

Out of 28 patients who were used as their own controls, 16 relapsed when placed on placebos, and 12 did not. Nearly all of those who did relapse were patients with more severe symptoms, and a diagnosis of schizophrenia or a severe depression. However, a remission of symptoms was observed again when the drug was reinstituted.

The main and the only clinically significant side-effect was a slight orthostatic hypotension. This was not constant and did not always correspond to the dose and to the individual's blood pressure prior to the treatment, e.g., one patient who was given daily doses of 400 mg. had no side-effects, her blood pressure fluctuating in the range of 138/85 to 110/60. Two patients experienced giddiness and a few fainting spells. Both were normotensive prior to the therapy. Twelve other patients complained of feeling "dizzy and weak" on occasions. However, these symptoms could not be attributed with any certainty to changes in their blood pressure. More often it seemed to be part of their own pathology. Some degree of lowering of blood pressure was noted in nearly all cases. Three patients in the series had mild hypertension prior to treatment (154/110, 146/98, 150/94); in all of them the blood pressure decreased to a normal level on medication of S. 9-888 which was maintained even when placebos were substituted. None of these three patients complained of side-effects.

In one patient a low white cell count was observed. She was a 38-year old housewife with a diagnosis of depressive reaction. On admission her leukocyte count was 3800 cells per cubic millimeter but on her fourth hospital day it went up to 5000. On the fifth day, when the course of S. 9-888 (50 mg. daily) was started the count was 4000. The medication was continued and four days later the leukocyte count increased to 5200. At that time the dose of S. 9-888 was doubled. Three days later the white cells decreased to 4300 and when the count was repeated another four days later there was a further decrease to a level of 3700. At this point S. 9-888 was substituted by an identical-looking placebo continued until the patient was dismissed ten days later. On the second day after the active medication was stopped the leukopenia was at the lowest point of 2600, and then gradually increased to 4750. At no time did the patient have any symptoms indicating leukopenia and her physical condition remained good. Her depressive symptoms were in good remission upon her discharge.

Other side-effects were minimal and of no clinical importance. They consisted of mild motor restlessness in some patients or slight lethargy and weakness. Several patients with a little more pronounced motor restlessness were given Artane or Cogentin. However, the symptomatic relief was doubtful.

There was no parkinsonism, no dyskinesia, no visual disturbances, nausea, skin rashes, or jaundice observed in this group of patients. Their liver function tests and urinalyses were normal in all cases.

Summary and Conclusion

The results obtained in this pilot study indicate that S. 9-888 has effective antidepressant and tranquilizing properties. Toxic and side-effects are mild. The significance of leukopenia in one case is unexplained and could not be definitely related to the drug toxicity. More extensive studies of this interesting compound seem warranted.

Drugs in Psychotherapy

JOSEPH S. SKOBBA, M.D.

Numerous articles describing the usefulness of drugs as aids in psychotherapy have been published.[1] It has been said of many drugs that they make patients accessible to a more highly constructive and useful kind of psychotherapy. Wikler[2] states that the action of drugs is not specific and invariable but depends on the personality structure of the patient and the therapist's manipulations. The variability of the effects of a given drug on human behavior is well known. Wikler infers that drugs alter motivations in specific ways thus accounting for the variations in the behavioral effects of a given drug in different individuals and in the same individual at different times.

Laughlin[3] defines psychotherapy as a method of treatment based primarily on communication with the patient during the interview. It is a joint endeavor with the patient and the therapist together seeking greater understanding of the former's emotional processes in order to relieve symptoms. The object is to make the patient's neurotic conduct no longer necessary and to help fill the void of adaptation thus created by encouraging new patterns of behavior which he will eventually adopt as personally and socially preferable to the old. Knight[4] stated that all successful psychotherapy contains three elements—support, rapport, and import.

Experience has shown that the use of drugs in connection with psychotherapy may interfere with the process, or may defeat the objectives of treatment. Individuals are accustomed to associate medication with physical disease. Any modification of discomfort in a favorable direction becomes proof of what the patient maintained all along—that there is a physical basis for the symptoms. This leads to questioning about the therapist's certainty that the basis of the condition is psychological. Much time is lost in this verbal sparring. The development of rapport is delayed if not prevented.

Discomfort is an important factor in motivation for psychotherapy. The patient's anxieties and pains can be used to turn the attention into the emotional life, the feelings, attitudes, wishes, actions, and relationships with other people. Removal of discomfort by medication, if it occurs at all, may result in a compromise so that the patient will not involve himself in the relationship necessary for treatment. The patient will become demanding, insisting that the psychiatrist do something to remove the necessity for medication or to change the situation which the patient may blame for his condition. There will be extreme resistance toward exploration of the attitudes and inner life of the patient.

When medication is involved, the patient may become engaged in preoccupation with the effects of the drug. An individual research project gets under way. The patient ingests the drug and then awaits the dramatic effect promised by the magazine article or implied by its use on the part of the psychiatrist. If no effect is perceived, the patient concludes that his condition must be bad indeed for such a powerful drug to be ineffective. Physiological reactions may be experienced with alarm. Side effects of the drug become a matter of great concern. There is a displacement of the preoccupation and anxiety to the schedule of medication. Doubt and indecision are now centered about the medication which provides grist for the neurotic mill. The goal of the treatment may become lost in the attachment to the procedure of medication which consciously satisfies the underlying longing for dependency and protection. The neurotic pattern is now manifest in a more socially acceptable form but one which is just as handicapping.

Medication may assume the quality of a soteria such as a symbol of security, safety, protection and well being. The psychiatrist may unwittingly contribute to this reaction by the introduction of medication into the treatment plan. Now the security derived

from the soteric object, the medication, presents another obstacle which requires analysis and resolution.

When a psychotherapeutic impasse occurs, there may be a temptation to resort to medication to alleviate the discomfort of the psychiatrist as much as to attempt to help the patient. This may result in a loss of the rapport already developed and may be interpreted as a surrender on the part of the psychiatrist. The personal security of the psychiatrist determines the success of the relationship and the course of the treatment program. Introduction of a drug to give support weakens the position of the therapist. During the development of transference-counter transference difficulties, the drugs may be utilized in lieu of a more effective psychotherapeutic resolution of the problems.

Most patients referred for psychiatric treatment have been exposed to the many medications currently in vogue and recommended in the popular press. It was the failure of the drugs to produce the desired result which prompted the referral. It could be most detrimental to the therapeutic relationship for the psychiatrist to prescribe one of the drugs already used and found wanting. The patient has come with the expectation of receiving a different and psychological rather than medicinal approach to his treatment. Since the success of the psychotherapy depends a great deal on the relationship between the therapist and the patient, it is most important that the interposition of a drug be avoided. If relief should come from the use of a drug, the patient may seek out the drug himself and resort to it on all occasions demanding adaptation, and in this manner develop a dependency.

Stimulated by the observation of the use of intravenous narcosis on the movie or television screen, the patient may seek this apparently rapid method of treatment. Acquiescence on the part of the psychiatrist may be interpreted by the patient as indicating that the patient does not have an active part in the treatment. The patient may insist that treatment be kept at this level of drug administration. The need to be dependent and to be dominated will be satisfied, thus changing the treatment program itself into a neurosis. The use of any medication, narcosis especially, may threaten the neurotic defenses of the patient. This may lead to a further retreat and a strengthening of the defenses. In latent paranoid conditions the treatment may be misinterpreted and incorporated into the paranoid system.

Summary

Undesirable effects may occur in the use of drugs in the course of psychotherapy:

1. Reenforcement of the idea that the cause of the condition may be organic.
2. Distraction of patient from the emotional factors operating in the generation of the symptomatology.
3. Focusing attention on the medication.
4. Removal of discomfort as a motivating factor.
5. Prevention, weakening or destruction of rapport.
6. Fostering dependency on medication.
7. Deepening entrenchment of the neurotic pattern.
8. Threatening neurotic defenses.
9. Invitation to retreat from appropriate resolution of therapeutic impasses.
10. Insistence that treatment be kept at the level of drug administration.
11. Conversion of the drug into a soteria.
12. Misinterpretation and incorporation of drug administration into a paranoid system.

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Anxiety Amelioration, a Dual Approach

THEODORE R. ROBIE, M.D.

The discovery of iproniazid and introduction of the several analogues which followed was a milestone in the progress of psychiatry during the past 10 years. That suicidal depressions can now be conquered in a few weeks in the vast majority of cases through carefully controlled dosage of a chemical in tablet form, with simultaneous psychotherapy has simplified the treatment of melancholia. Through this chemical development, a vast army of hopelessly discouraged persons may be rescued from the abyss of impending suicide and restored to their normal way of life.

Those of us who played a major role in helping this new chemically induced revolution in psychiatric treatment, recognize that there were still some obstacles to be surmounted. We found that in a few excessively anxious[1] and frightened persons it was difficult to keep them patient long enough (2 to 4 weeks) to refrain from suicidal attempts until the amine oxidase regulator had induced a sufficient and persistent blood concentration of serotonin and of nor-epinephrine to maintain constant eudaemonia. We also found that in certain excessively slowed down or stuporous depressives the patient went through a period of rapidly increasing anxiety before partial eudaemonia was induced.

In the recent November 1959 Symposium on Librium at Galveston, Texas, most of the evaluations of Librium were "pure," that is studies of the effect of this one drug alone on a group of symptoms which had anxiety as a common denominator, although depression could have been a major element. In my study an additional factor is introduced, namely the lighting up or exaggerating of anxiety elements, perhaps dormant, which may occur when an energizer is first administered. Some of these patients therefore may all have shown an even greater degree of anxiety or phobia, which the Librium was called upon to becalm. Psychiatrists using amine oxidase inhibitors in the treatment of melancholia, have witnessed this exacerbation of seemingly excessive anxiety developing a few days to a week after starting the energizer therapy. In fact, when the amine oxidase regulators were first introduced this was a reason for discontinuing the energizer in a great many cases as it was believed that the condition was worsened by the drug. However, when Permitil or Librium is administered concomitantly from the outset it is not necessary to stop the energizer since exacerbations of severe anxiety are quickly becalmed by either tranquilizer.

In rare instances it was deemed advantageous to change from Permitil to Librium, or vice versa, in the belief one might prove better than the other, but it is probable that increase in dosage of the original drug might have served the same purpose. However, it certainly is an advantage to be able to change quickly to another equally good drug since this move may have considerable suggestion leverage. Furthermore, it is possible to secure additional advantage by combining the two tranquilizers in this way: By giving the 24-hour Permitil chronotab in the morning with effect that lasts 24 hours and a 25 or 50 mg. Librium at night which may induce a satisfactory night's sleep.

As new knowledge is developed, it is not at all surprising that more than one investigator may arrive at the same or similar conclusion simultaneously. This regimen regarding Librium is confirmed in the findings of H. Angus Bowes. He states:

"I now treat all but psychotic depressive conditions with a combination of Librium and either Catron, CBX 1031, Marsilid, Marplan, Nardil, Niamid or Tofranil." . . .

"It is part of psychotherapy to help patients realize that anxiety is part of life and that they should learn to live with it. . . . Research with drugs such as Librium makes me feel extremely modest over my psychotherapeutic abilities and happily opti-

Read at a scientific meeting of Eastern Psychiatric Assn., April 1960, at New York University Medical School, New York City.

mistic over the possibilities of the psychiatric equivalent(s) of antibiotics to come. Unfortunately some of our more rigid colleagues with vested interests in esoteric fields are likely to continue to sit on the psychopharmaceutical fence until the iron enters into their souls."

Many patients coming to the psychiatrist for treatment of depression also suffer from anxiety states. In fact a considerable number of these melancholy patients feel that their chief problem is this anxiety which makes it impossible for them to face friend or stranger on a normally relaxed social plane. It restricts their activity and they feel isolated and thus may go one step further and insist that life is not worth living.

There are other cases in whom the anxiety is masked when the patient is first seen and started on antidepressant therapy but blossom into an acutely anxious state within a few days or a week. Before the amine oxidase therapy can accomplish its mission of obviating the melancholia, the intense anxiety introduces a serious handicap to the patient's recovery. In not a few such patients the decision may seem imperative to change over to electroshock therapy. Many overly anxious persons could be saved from this radical therapy by the administration of Librium or Permitil in conjunction with AOI therapy.

TABLE I

Composition of 83 Cases

Marital Status	*Male*	*Female*
Married	15	43
Single	4	8
Widowed	1	6
Divorced	1	1
Separated	2	2
Total	23	60

Age Grouping	*Male*	*Female*
Under 20	1	0
20 - 29	3	7
30 - 39	3	12
40 - 49	3	17
50 - 59	9	8
60 - 69	3	11
70 - 79	3	11
80+	0	1
Totals	23	60

It is not always easy to decide which of these medications should be administered when the case is first seen. If the anxiety is mild one can give the long acting (24-hour) Permitil chronotab in adequate dosage. However, in the more exaggerated states of apprehension a 25 mg. Librium capsule t.i.d. will produce a calm exterior or even somnolence within a few hours. After one or two days of such tranquilization, the dosage can be gradually decreased. Close observation of the patient on this high dosage is imperative since he may become ataxic and unable to maintain balance in walking.

Table II lists the results in 83 cases in

TABLE II

Dual Approach Therapy

RESULTS IN 83 PATIENTS

		REMISSION			
Diagnosis	Sex	Partial	Good	Excellent	Unimproved
Involutional Melancholia	M	1	1		1
	F	3	2	4	2
Manic Depressive					
Depressive Type	M	1	1	1	
	F		2	1	
Mixed Type	M		1		
	F		2	1	
Reactive Depression with Anxiety Features	M	3	2	5	
	F	1	4	15	
Reactive Depression with Compulsive Features	M				
	F	2	1	1	
Traumatic Neurosis with Depression	M			1	
	F				
Senile Depression	M				
	F	1			
Schizophrenic Depression	M	2	1		3
	F	2	5		3
Alcoholism with Depression	M	3	1		
	F				
Depressive Reaction with Anxiety During Pregnancy	F	1			
Senile Depression with Multiple Sclerosis	M				
	F				1
Depression with Hypothyroidism	M	1			
	F				
Totals		21	23	29	10

which the major therapy administered was an amine oxidase inhibitor chemical. However, from our experience with these energizers during the past three years, we know that in some instances, it was necessary to withdraw such therapy because of the increase in anxiety that developed. Therefore the very fact that we were able to continue the energizer in many cases with good results, demonstrates that the Permitil or Librium did reduce anxiety and tension in sufficient degree to permit the energizer to produce its good effects. The calming agent can be considered a catalytic agent in vivo.

Representative Cases

Case No. 1: A 39-year-old woman came for treatment for severe involutional depression with agitation and a weight loss of over 20 pounds. Electroshock seemed imperative at that time. A course of 12 treatments did not relieve the agitation and the EST was continued but at less frequent intervals. She received 26 treatments with supplementary chemotherapy over a period of 10 months. The results were far from satisfactory.

When fluphenazine became available, she was placed on a dosage of 1 mg. in the morning and ½ mg. at night in conjunction with isocarboxazid. She showed marked recession in her agitation and was brought to a satisfactory remission which has been maintained without further need for electroshock therapy.

Case No. 2: A professional man of 65 was referred because of a suicidal compulsion. His agitated depression was based on delusions of imperfection based on an exaggerated sense of guilt relating to his early life.

Bold treatment was indicated but EST was not considered appropriate because of particular circumstances. Isocarboxazid and methaminodiazepoxide were administered concomitantly in large enough dosage day and night to assure adequate sleep at night and daytime lethargy to annual aggressive self-destructive efforts. Meanwhile amine oxidase regulation was increased by additional iproniazid fortified by pyridoxine. Frequent transaminase determinations were made routinely to warn of any need for reduction of AO therapy.

In a short time the agitation was calmed and the aggressive compulsions disappeared. Meanwhile the cumulative effectiveness of amine oxidase regulation was gaining momentum. Within a week, although dosage was reduced on the third day, the occurrence of drooling necessitated interruption of the methaminodiazepoxide. After a few days of gradually reducing lethargy and ataxia, spontaneous urge to resume normal activities became evident as did the desire to return to his professional duties where there was an acute need for his former decisive capacity.

With firm suggestion therapy it was possible for him to return to his responsibilities while adequate chemo- and psychotherapy were continued. The positive value of occupational therapy in his own professional duties, with mild dosage of calming medication and continued adequate dosage of AO regulator contributed to a satisfactory remission of the melancholia and pathological anxiety.

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Reports of recent advances in psychodynamics and organic psychiatry will be presented at the Fifth Annual Meeting of the Eastern Psychiatric Research Association to be held November 3rd through 5th, 1960. The sessions on Thursday, November 3rd will be held at the Creedmoor State Hospital, Queens Village, N. Y., while the Friday and Saturday sessions will be held at the Waldorf-Astoria Hotel in New York City. The Thursday sessions will include a symposium on Hypnosis, both as a research and therapeutic tool, and will also feature a session on "Practical Treatment" in the fields of drug therapy and electrotherapy. A relatively new type of non-convulsive electric treatment, using Sedac currents, will be demonstrated as well as the use of newer therapeutic agents to quickly terminate insulin coma treatments.

The morning session on Friday, at the Waldorf-Astoria, will include studies on experimental electrical stimulation of the central nervous system and its chemical and hormonal effects; in addition, a survey of side effects and possible toxicity of some of the newer psychopharmacological drugs will be considered. Other papers will include reports on job placement and rehabilitation of the mental patient. The use of a relatively new anti-depressant (tranylcypromine) will also be reported at this session.

Friday afternoon will be devoted to many papers on the challenging problem of "Psychiatric Rehabilitation." The papers will include studies on motivation, research, psychodynamics, and chemotherapy.

Saturday morning, November 5th, will feature a symposium on the "Principles and Application of Existential Analysis." In the afternoon session, "Preventive and Genetic Psychiatry" will be considered. Here the psychiatric correlations of enzymatic and hormonal disturbances will be considered. The papers to be presented include studies of nucleic acids, the metabolism of human cells, and tissue culture studies with their application to metabolic (inherited) disorders of the central nervous system. The afternoon session will include papers on acute intermittent porphyria, thyroid diseases and hypertensive and coronary heart disease. A final scientific session will consider new perspectives in psychiatric research.

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